APPLICATION FOR AN ENVIRONMENTAL PERMIT UNDER THE ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016 (AS AMENDED)

APPLICATION SITE CONDITION REPORT

ACKHURST WASTE TRANSFER STATION,
ACKHURST ROAD, CHORLEY,
PRESTON, PR7 1NH

ECL Ref: CHBC.01.01/ASCR
Version: Issue 1
January 2025

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ACRONYMS / TERMS USED IN THIS REPORT

ASCR	**Application Site Condition Report**
BAT	**Best Available Techniques**
BGS	**British Geological Survey**
CBC	**Chorley Borough Council**
EA	**Environment Agency**
ECL	**Environmental Compliance Limited**
EMS	**Environmental Management System**
EP	**Environmental Permit**
EP Regulations	**Environmental Permitting (England and Wales) Regulations 2016 as amended**
ERA	**Environmental Risk Assessment**
MAGIC	**Multi-Agency Geographic Information for the Countryside**
OS	**Ordnance Survey**
PPC	**Pollution Prevention and Control**
SPZ	**Source Protection Zone**
The Depot	**Operational Depot for Chorley Council Streetscene Services**
The Facility	**Chorley Council Transfer Facility**
The Site	**Ackhurst Business Park, Ackhurst Road, Chorley, Preston, PR7 1NY**

1. SITE DETAILS

1.1. Context and Objectives of Site Condition Report

1.1.1. Environmental Compliance Limited ("ECL") have been commissioned by Chorley Borough Council ("CBC") to prepare an Application Site Condition Report ("ASCR") to form part of the Environmental Permit ("EP") application for their new waste transfer facility, hereafter referred to as "the Facility", located at Ackhurst Business Park, Ackhurst Road, Chorley, Preston, PR7 1NY ("the Site"). It should be noted that the Facility is located within the operational depot for Chorley Council Streetscene Services, herein after referred to as "the Depot".

1.1.2. This report has been produced in accordance with Version 3 of the Environment Agency's ("EA") Site Condition Report template *'Guidance for applicants H5: site condition report – guidance and template'*.[1] The aim of the ASCR is to describe the condition of the land at the site and to identify any substance in, on, or under the land that may present a pollution risk.

1.1.3. The ASCR, therefore, sets out the initial (i.e., current) condition of the site and considers any pollution incidents that may have occurred at the site and details of any measures put into place to mitigate the effects of any such incidents. It serves two main purposes:

- firstly, it will act as a reference point, along with operating records, for measuring any deterioration of the site whilst operating under the permit (on surrender of the permit, another site report must be prepared, identifying any changes to the condition of the site from that described in the original report); and
- secondly, the ASCR will give information on the physical attributes and vulnerability of the site; it will assist in understanding the environmental setting of the site, and understanding the nature, extent and behaviour of any contaminants that may be present; local hydrology, hydrogeology, geology and general setting are considered.

1.2. Name of the Applicant

1.2.1. The applicant is Chorley Council, a Local Authority.

1.2.2. Pre application advice from the EA was received on the 20th of September 2023, together with the EA's Nature and Heritage Conservation Screening Report for the site. Copies of which have been provided as part of this application submission.

1.3. Facility Location

1.3.1. The Facility is located on Ackhurst Road, Chorley, Preston, PR7 1NH. The Facility covers an area of approximately 0.88 hectares.

1.3.2. The Site Location Plan (CHBC.01.01-01) details the Environmental Permit Boundary (outlined in green) and is provided in Section 3 of this application submission.

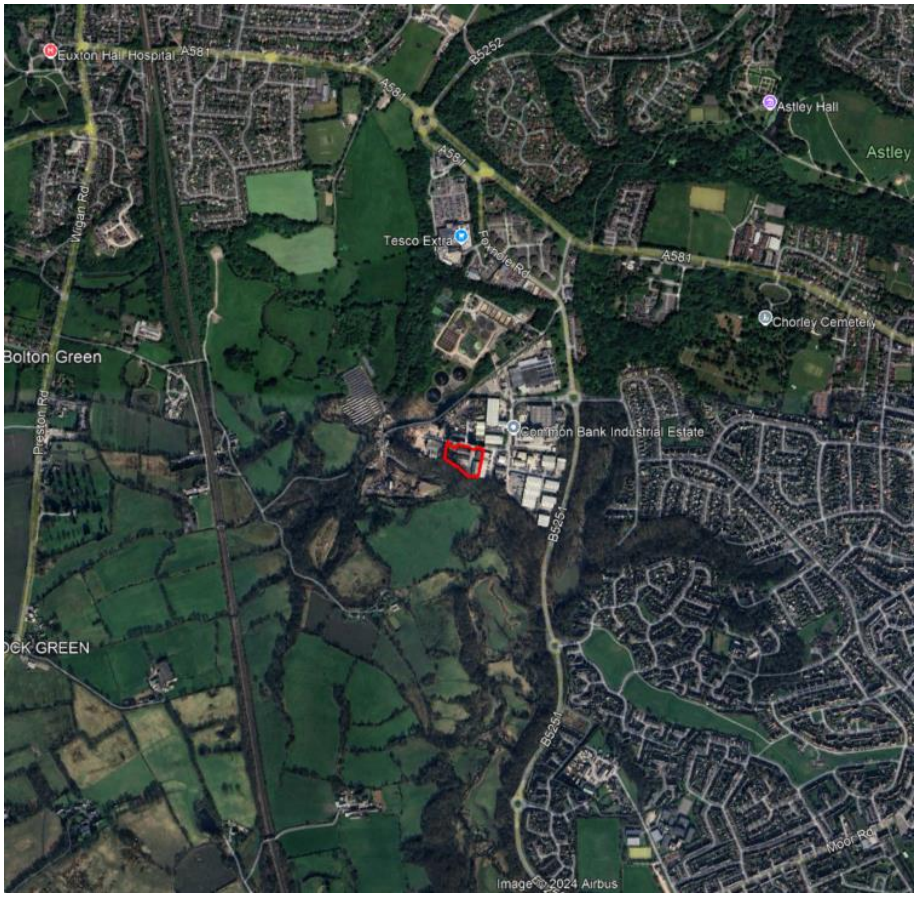
[1] EA *'Guidance for applicants H5 site condition report – guidance and templates'*, available at: https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report updated May 2013, accessed July 2024.

1.3.3. The following drawings have been prepared for the EP submission and are included in Appendix I of this ASCR:

- Site Location Plan – CHBC.01.01-01
- Site Layout Plan – CHBC.01.01-02
- Sensitive Receptor Plan – CHBC.01.01-03
- Fire Prevention and Mitigation Plan – CHBC.01.01-04
- Drainage Arrangements – CHBC.01.01-05

1.3.4. Figure 1 provides the indicative location of the Facility (red outline) within the context of the surrounding environment

Figure 1: Indicative Site Location



1.3.5. The Facility is located within Common Bank Industrial Estate which consists of numerous industrial/commercial units, a sewerage works, quarrying activities and a solar farm.

1.3.6. The River Yarrow is located approximately 40 metres south of the Facility boundary.

1.3.7. Residential housing is located to the east, southeast and north of the Facility, the nearest property being approximately 0.37km east.

1.3.8. Open green space and farmland is located to the west and south of the Facility.

2. CONDITION OF LAND AT PERMIT ISSUE

2.1. Environmental Setting

Geology

2.1.1. The British Geological Survey ("BGS")[2] records the underlying geology as being superficial deposits (till, Devensian – Diamicton). The bedrock is recorded to be part of the Pennine Lower Coal Measures Formation (mudstone, siltstone and sandstone).

2.1.2. The BGS Urban Soil Chemistry average concentration values, as reported within the Envirocheck report contained in Appendix II are as follows for locations within the Facility's boundary:

- arsenic: 15 – 25 mg/kg;
- cadmium: <1.8mg/kg
- chromium: 60 – 120 mg/kg;
- lead: <100mg/kg; and
- nickel: 15-30mg/kg.

2.1.3. The Coal Authority's Coal Mining Report (contained in Appendix III) states that the Facility is not in a surface area that could be affected by any past recorded underground coal mining, any present underground coal mining or in an area likely to be affected by any future planned underground coal mining. In addition, no notices have been given, under Section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

2.1.4. According to the Radon Affected Area mapping tool[3] for the UK, the Facility is located within an area with bands of elevated radon potential possessing a maximum radon potential of 10-30%.

Hydrogeology

2.1.5. According to the BGS portal, the bedrock geology is reported to be a moderately productive aquifer, Secondary A - Pennine Lower Coal Measures Formation and South Wales Middle Coal Measures Formation (Undifferentiated). This is defined by the Environment Agency as permeable layers capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

2.1.6. As detailed by data provided via the Multi-Agency Geographic Information for the Countryside ("MAGIC") portal[4], superficial deposits underlying the Facility are designated as an undifferentiated secondary aquifer. This is assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor and non-aquifer in different locations due to the variable characteristics of the rock type. The superficial aquifer is reported to be of medium groundwater vulnerability.

[2] British Geological Survey Geology of Britain Viewer. Available online at https://mapapps2.bgs.ac.uk/geoindex/home.html accessed November 2024.
[3] Radon Affected Areas Mapping Tool. Available online at https://www.ukradon.org/information/ukmaps, accessed November 2024.
[4] MAGIC portal, available at: https://magic.defra.gov.uk/MagicMap.aspx, accessed November 2024.

2.1.7. There are six recorded groundwater abstraction licences within 2km of the Facility, as shown in Table 1.

Table 1: Groundwater Abstraction Licences Within 2km of the Facility

National Grid Reference	Licence Number	Distance from Facility Boundary (km)	Details of Use
356500,417200	2670211012	0.114	Industrial & Transfer
356360,417188	Nw/070/0211/012	0.227	Refuse & Recycling – General Use
356900,416900	2670211011	0.448	Industrial
358040,416280	2670211006	1.715	Other Industrial/Commercial/Public Services: General Cooling
354799,418012	Nw/070/0211/006	1.872	Non-Remedial River/Wetland Support: Fish Pass/Canoe Pass
358090,415990	2670211006	1.993	Other Industrial/Commercial/Public Services: General Cooling

2.1.8. According to the MAGIC portal, the Facility is not located on a Source Protection Zone ("SPZ").

Surface Waters

2.1.9. As shown on the EA's Long Term Flood Risk Map[5], the Facility is not covered by a flood risk category for flooding from rivers or the sea and is therefore deemed to have a very low probability of flooding (defined as having less than 0.1% chance of flooding annually).

2.1.10. Similarly, the Facility is not covered by a flood risk category for surface waters (and is therefore deemed to have a very low probability of flooding).

2.1.11. Figures 2 and 3 have been provided to reproduce the information displayed in the EA's mapping service for rivers and the sea and for surface waters, respectively. In Figures 2 and 3, the approximation location of the Facility has been depicted by the red outline.

[5] EA's Long Term Flood Risk maps, available at: https://www.gov.uk/check-long-term-flood-risk, accessed November 2024.

Figure 2: Long Term Flood Risk Map – Rivers and the Sea

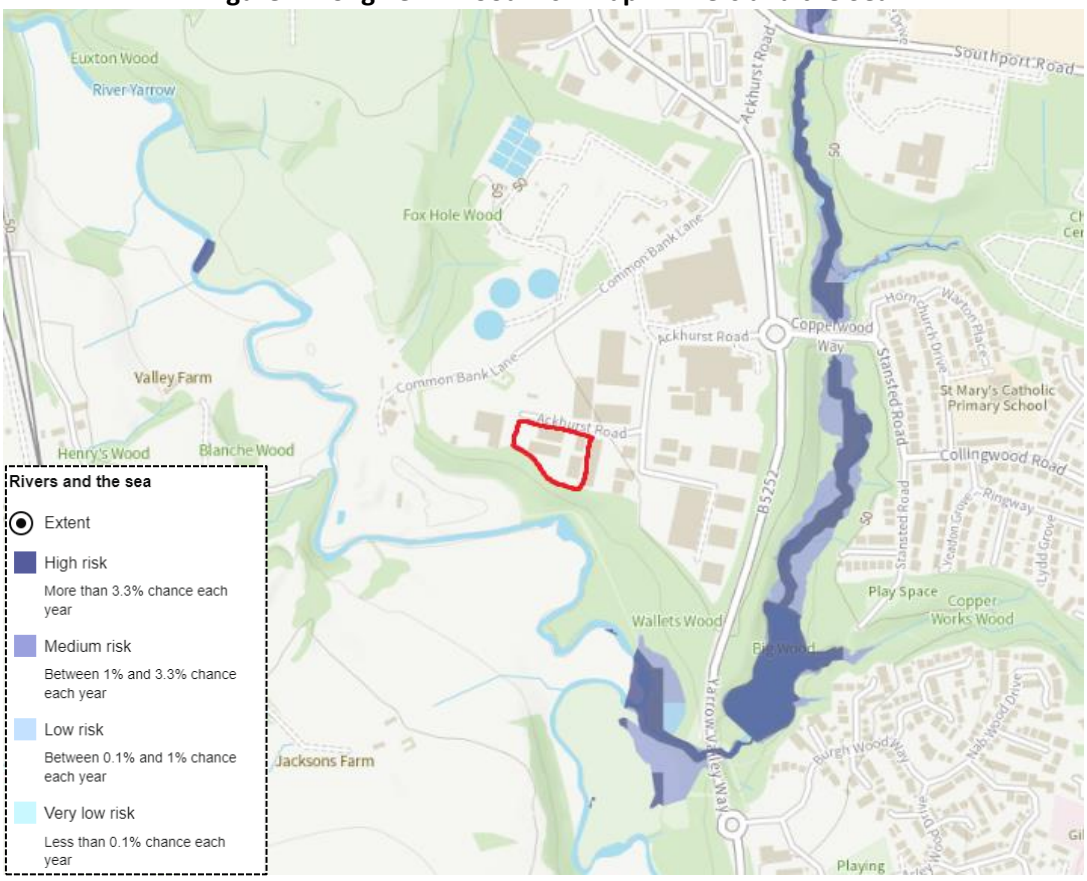
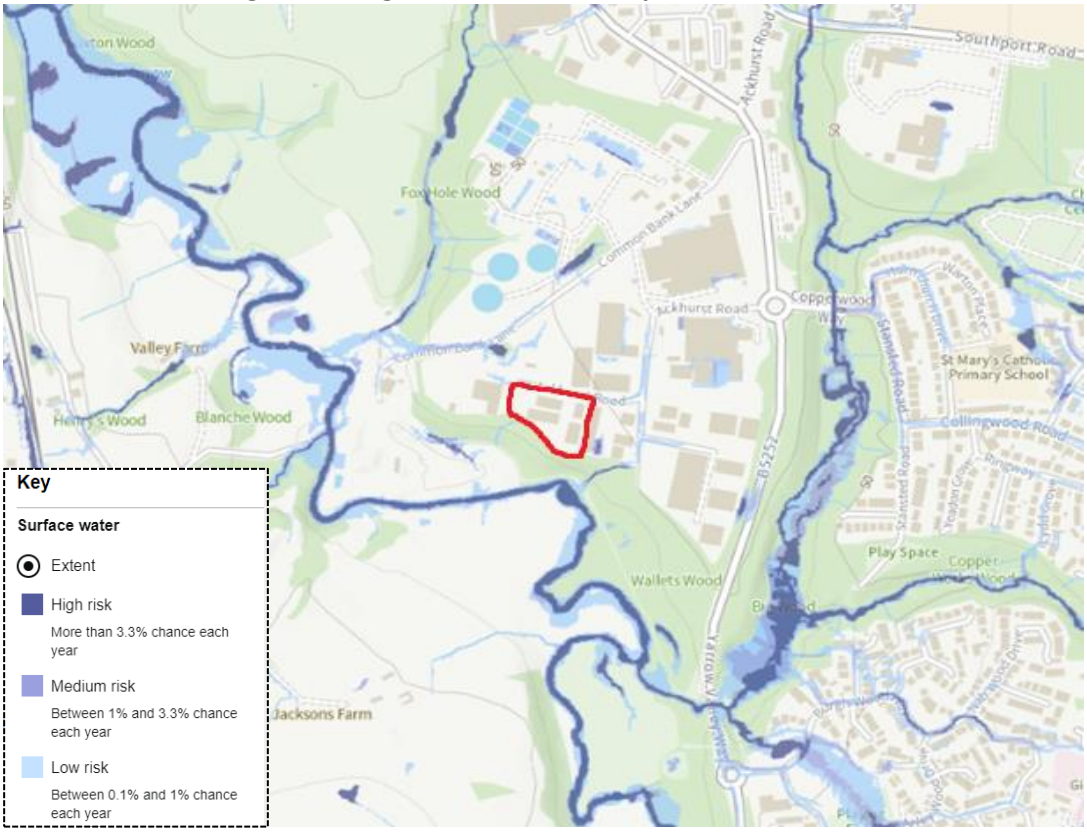


Figure 3: Long Term Flood Risk Map – Surface Waters



2.1.12. There are 92 Discharge Consents within 500m of the Facility, as detailed within the Envirocheck report (see Appendix II). The vast majority of the listed Discharge Consents relate to emergency sewage discharges from the pumping station associated with the nearby wastewater treatment works sited to the north of the Facility.

2.2. Pollution History

Historic and Existing Activities

2.2.1. A review of the Ordnance Survey ("OS") maps from 1849 to 2024 has been undertaken for the Facility and surrounding area and the findings are presented in Table 2. The OS maps are contained within the Envirocheck Report for the proposed Facility, which is provided in Appendix II of this ASCR.

2.2.2. It is not the purpose of this section to provide a comprehensive account of development history but only to detail those factors that are or could be relevant to the potentially contaminative history of the site and surroundings.

Table 2: Historical Review

Date	Scale	The Facility	Surrounding Area
1849	1:10,560	Fields/open green space.	There are open fields and woodland in all directions. The River Yarrow runs from the northwest of the Facility to the south and a railway can be observed circa 0.65km west of the Facility, heading north to south. A road connecting Ackhurst Lane immediately north of the Facility is apparent.
1894 – 1895	1:2,500 & 1:10,560	No change.	Common Bank Sewage Farm now present circa 0.2km northeast of the Facility. Residential expansion can be seen within approximately 1.5km east of the Facility, following Moor Road to the southwest.
1910	1:2,500	No change.	Chorley Bleaching Works now present within circa 0.1km southwest of the Facility.
1912	1:10,560	No change.	Expansion to Common Bank Sewage Farm and residential developments approximately 1.1km east-northeast and northwest of the Facility.
1928	1:2,500	No change.	Filter Beds now evident, sited approximately 0.2km west-northwest of the Facility.
1929 – 1930	1:10,560	No change.	Further expansion to Common Bank Sewage Farm visible. Additional residential developments can be seen circa 1km east of the Facility.
1938	1:2,500 & 1:10,560	No change.	Notable expansion in Chorley to the east of the Facility.
1956	1:10,000	No change.	Residential developments in Chorley to the east and Daisy Hill to the northwest of the Facility.
1960	1:2,500	No change.	No significant change.

Table 2: Historical Review (cont.)

Date	Scale	The Facility	Surrounding Area
1968	1:10,000	No change.	Significant residential developments circa 1km south-southeast of the Facility.
1970	1:2,500	No change.	No significant change.
1974	1:10,000	No change.	Significant residential developments in Chorley to the east and Euxton to the northwest of the Facility.
1985	1:2,500 & 1:10,000	Industrial buildings now present on-site.	Industrial / commercial buildings apparent to the west and north of the Facility. Further residential expansion in Chorley to the north and east of the Facility and in Euxton to the northwest of the Facility.
1990 – 1991	1:2,500	No change.	No significant change.
1993	1:2,500 & 1:10,000	No change.	Industrial developments to the north of the Facility beyond the Sewage Farm.
1994	1:2,500	No change.	The Bleach Works to the southwest of the Facility appears to have been demolished.
1996	1:2,500	No change.	Additional industrial units present to the east of the Facility.
2001	1:2,500	No change.	Part of the Sewage Farm to the west-northwest of the Facility appears to have been demolished. Further industrial expansion to the east of the Facility.
2001	1:10,000	No change.	No significant change.
2006	1:10,000	No change.	Further industrial and residential expansion to the east of the Facility.
2024	1:10,000	No change.	New infrastructure / aeration tanks now present as part of the Sewage Farm, sited approximately 0.1km north-northwest of the Facility.

Waste Sites Including Landfill Sites

2.2.3. According to the Envirocheck report (see Appendix II), there are no BGS Recorded Landfill Sites within 1km of the Facility. There are four historical landfill sites recorded as being within 1km of the Facility – the closest being approximately 0.48km south-southeast from the Facility, which deposited waste including household waste.

2.2.4. The Envirocheck report states there are four licensed waste management facilities within 1km of the Facility, permitted by the Environment Agency. The closest is located within the Facility boundary, according to the coordinates specified in the Envirocheck Report. The licence was issued on the 2nd of June 1993 and the site was a permitted transfer station for household, commercial and industrial waste.

Pollution Incidents

2.2.5. The Envirocheck report contained in Appendix II lists 44 recorded pollution incidents to controlled waters within 1km of the EP boundary; one of these was recorded as a Category 1 (major incident), seven of these were recorded as Category 2 (significant incidents) and the remainder were recorded as Category 3 (minor incidents).

2.2.6. The closest recorded event (a Category 3, minor incident) took place on the 30th of September 1996, circa 68m northwest of the Facility, which involved a release of 'Oils – Diesel (Including Agricultural) to the Yarrow catchment. The last recorded event (a Category 3, minor incident) took place on 17th of August 1999 approximately 264m north of the Facility, which involved a release of sewage sludge. The Category 1, major incident, was recorded as taking place on the 21st of September 1993, circa 304m northeast of the Facility and the release was described as 'unknown sewage' to the River Yarrow.

On-Site Potential Pollution Impacts

2.2.7. As identified from a review of the Envirocheck report data, potential on-site pollution may have occurred as a result of the site previously being used as a waste transfer station.

Off-site Potential Pollution Impacts

2.2.8. As identified using the Coal Authority's Coal Mining Report (contained in Appendix III), the property is not in an area where the Coal Authority has received an application for and is currently considering whether to grant a licence to remove or work coal by underground methods. However, reserves of coal exist in the local area, which could be worked at some time in the future.

2.2.9. There are five active permitted Local Authority Pollution Prevention and Control ("PPC") sites within 1km of the Facility, with varying activities including:

- film coating;
- respraying of road vehicles;
- mobile screening and crushing; and
- petrol filling station.

2.2.10. All five of the PPC sites regulated by the Local Authority are deemed Part B activities and will have to follow their sector specific process guidance notes, along with having strict emission limits, monitoring and adhere to Best Available Techniques ("BAT").

2.2.8. There may be a legacy of ground contamination in the vicinity of the Facility from any uncontrolled pollution arising from the activities associated with former industrial processes, historical landfill sites and licensed waste management facilities.

2.3. Pollution Prevention Measures

2.3.1. The Facility's operational areas benefit from enclosed and segregated waste storage areas. In addition, the Facility possesses impermeable concrete surfacing creating an impervious barrier to prevent downward migration of potential contaminants. This is shown on the Site Layout Plan (drawing reference: CHBC.01.01-02) contained in the Drawings provided in Appendix I.

2.3.2. In the unlikely event of loss of containment at the Facility, employees will be fully trained in the emergency spill response procedure.

2.3.3. The following control measures will be implemented:

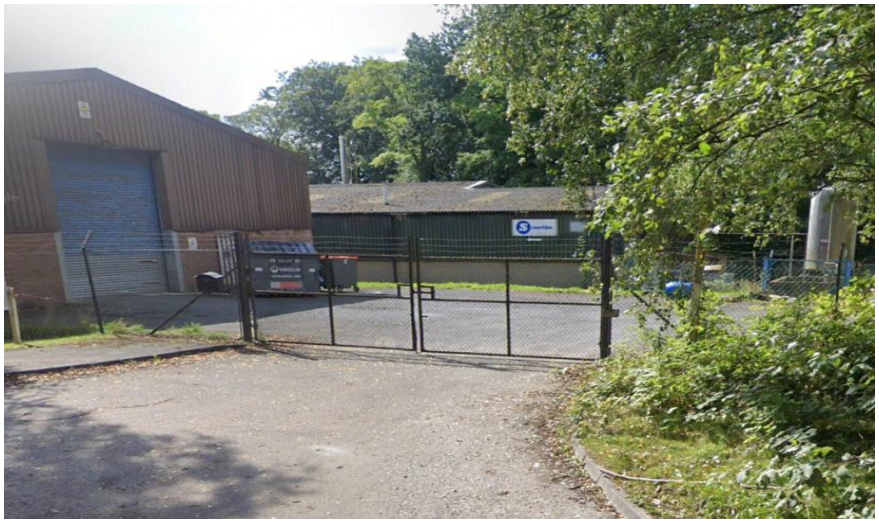
- all waste will be stored within the designated waste storage areas;
- the site has impermeable surfacing with a sealed drainage system, this will ensure that in the event of a spillage there is no risk of emissions to land or surface waters;
- waste will be stored in secure, enclosed and segregated waste storage areas. This will further minimise the risk of odour, litter and pest infestation and will also further reduce the risk of emissions arising from a spillage / loss of containment;
- storage areas, containers and infrastructure will be inspected as part of daily inspections / housekeeping. Issues identified will be dealt with immediately and records will be logged and kept on site;
- site vehicles and equipment will be regularly maintained as per the manufacturer's recommendations; and
- emergency spill kits will be held on site to absorb any spillages of liquids and staff will be suitably trained for spill kit deployment.

2.4. Site Overview

2.4.1. Figures 4 - 6 show the condition of the concrete hardstanding at the Depo. The concrete hardstanding is in generally good condition showing no signs of significant cracks or depressions. However, the site will be upgraded as part of the development of the Waste Transfer Station and Operational Depot for Chorley Council Streetscene Services.

2.4.2. The Site Layout Plan (drawing reference: CHBC.01.01-02), which is contained as part of the Drawings provided in Appendix I of this ASCR, should be viewed in conjunction with Figures 4 – 6 as this demonstrates the proposed infrastructure arrangements and waste storage areas at the Facility.

Figure 4: Site Entrance

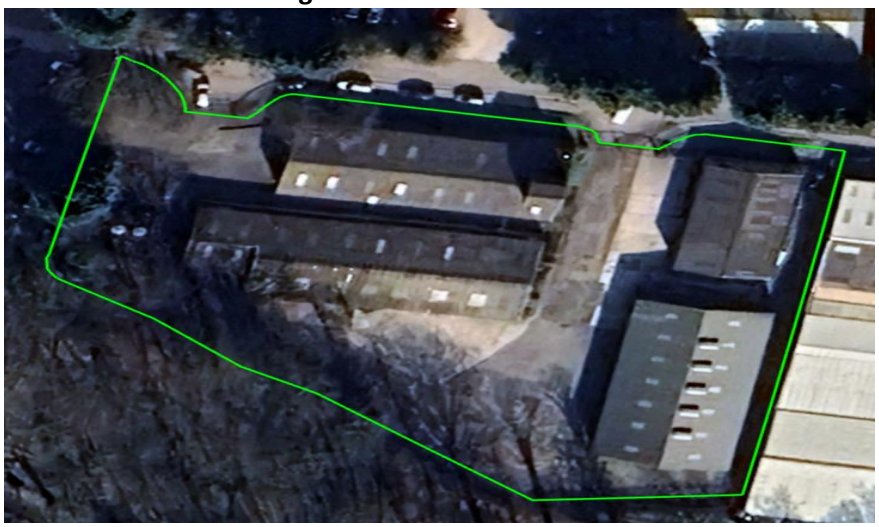


Source: Google Earth Street View (August 2022)

Figure 5: Site Exit

Source: Google Earth Street View (August 2022)

Figure 6: Site Aerial View



Source: Google Earth Satellite Imagery (March 2024). The indicative EP boundary is outlined in green.

2.4.3. Figure 7 shows the area to be redeveloped to for the permitted area where waste storage bays will be located.

Figure 7: Area to House Waste Storage Bays

2.5. Requirement for Intrusive Site Investigation

2.5.1. A Phase 2 Geo-Environmental Investigation, Risk Assessment and Outline Remediation Strategy works were undertaken by LK Consult Ltd on behalf of Chorley Council. A copy of the report may be found in Appendix IV.

2.5.2. Based on the findings of the site investigation and risk assessment, it is reported that no remediation works are required. The extensive background chemical data collected as part of the site investigation works and subsequent sample analysis undertaken should be used to inform the baseline conditions (see Appendix IV).

3. PERMITTED ACTIVITIES

3.1. Permitted Activities

3.1.1. The Facility comprises an area within the Depot. Activities undertaken by CBC include street sweepings, bin emptying, fly tip removal and grounds maintenance for the Borough's parks and open spaces. The Depot is the base for operational staff and plant and provides office and welfare facilities along with parking for staff and visitors.

3.1.2. No processing of waste will occur at the Facility, and the hazardous waste storage will not exceed 50 tonnes at any one time.

3.1.3. Due to the waste codes to be accepted at the Facility, a bespoke waste operation Environmental Permit is required as the activities shall fall under Schedule 9 of the Environmental Permitting (England and Wales) Regulations 2016 as amended ("EP Regulations").

3.1.4. The activities proposed are detailed in Table 3.

Table 3: Permitted Activities

Description of Activities	Limits of Activities
D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)	The maximum quantity of waste stored at the site shall not exceed 60 tonnes of non-hazardous waste or 10 tonnes of hazardous waste. No waste shall be stored on site for longer than 6 months.
R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced	There shall be no treatment of any waste.

3.1.5. The total quantity of waste accepted at the Facility will be up to 4,000 tonnes per annum. This is estimated to comprise 3,940 tonnes of non-hazardous waste and 60 tonnes of hazardous waste.

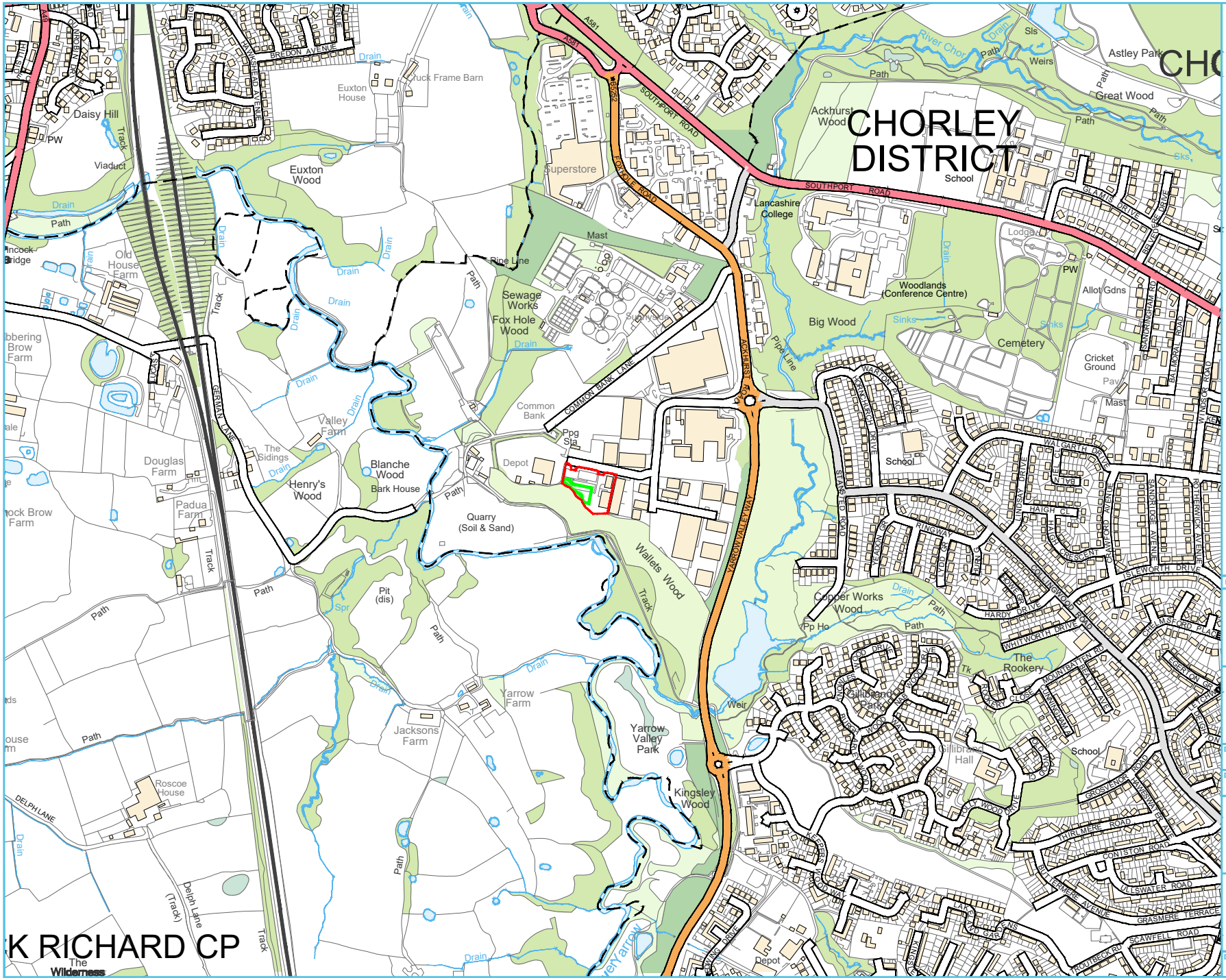
3.1.6. A Site Layout Plan (drawing reference: CHBC.01.01-02) has been produced illustrating the proposed activity layout and is contained within the Drawings provided in Appendix I of this ASCR.

3.1.7. An Environmental Risk Assessment ("ERA") (CHBC.01.01/ERA) has been prepared for this Environmental Permit application submission. Additionally, a Site Management Plan is part of the Environmental Management System ("EMS") and will provide details on the total inventory of potentially polluting substances to be held at the Facility.

3.2. Permitted Operating Hours

3.2.1. The site will be operational from 07:30 to 18:00 Monday to Saturday.

APPENDIX I
DRAWINGS



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N

LEGEND

- SITE BOUNDARY
- ENVIRONMENTAL PERMIT BOUNDARY

Rev	Date	Details	Chkd

Environmental Compliance Ltd.
Unit G1
The Willowford
Main Avenue
Treforest Industrial Estate
Pontypridd.
CF37 5BF

Tel: 01443 801215
Email: info@ecl.world
Web: www.ecl.world

Client

Chorley Council

Date	Scale	Drawn by	Checked by	Approved by
19/12/2024	1:10K @ A4	GTB	SC	SC

Drawing Status

WORKING DRAWING

Project Title

ENVIRONMENTAL PERMIT APPLICATION
CHORLEY COUNCIL
ACKHURST BUSINESS PARK
ACKHURST ROAD
CHORLEY. PR7 1NH

Drawing Title

SITE LOCATION PLAN

Drawing Number	Rev
CHBC.01.01-01	-

0m 10m 20m 30m 40m 50m

N

BAYS

G2	HAZARDOUS WASTE COVERED MESH COMPOUND 6.25m(W) x 6.5m(D) X 2.5m(H)
G3	WEEE SKIP 12 YARD SKIP 3.7m(W) x 1.75m(L) X 1.7m(H)
G4	STREET CLEANING RESIDUE CONCRETE BAY 6.15m(W) x 6.5m(D) X 2.5m(H)
G5	GREEN WASTE CONCRETE BAY 3.5m(W) x 6.5m(D) X 2.5m(H)
G6	GENERAL WASTE CONCRETE BAY 4.5m(W) x 6.5m(D) X 2.5m(H)
G7	GENERAL WASTE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G8	STREET CLEANING RESIDUE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G9	GREEN WASTE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G10	SCRAP METAL 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G17	DOMESTIC WASTE CONTAINING PERSISTENT ORGANIC POLLUTANTS 35 YARD CONTAINER 2.44m(W) x 6.09m(L) X 2.1m(H)
G18	TYRES CONCRETE BAY 3.2m(W) x 3.125m(D) X 2.5m(H)
G24	NON CONFORMING WASTE / QUARANTINE AREA / HOT LOADS CONCRETE BAY 4.5m(W) x 4.5m(D) X 2.5m(H)
H2	VEHICLE WASH, WATER RUN OFF TO GO THROUGH INTERCEPTORS, SUMP WASTE COLLECTOR REQUIRED.
H3	VEHICLE WATER FILL

LEGEND

- SITE BOUNDARY
- ENVIRONMENTAL PERMIT BOUNDARY
- BAY FIRE WALLS
- BUILDINGS

SURFACING

CARRIAGEWAY CONSTRUCTION

40mm	SURFACE COURSE SMA 10 SURF 40/60
60mm	BINDER COURSE AC20 HDM DENSE BIN 40/60
120mm	BASE COURSE AC32 DENSE BASE 40/60
230mm	TYPE 1 SUB BASE (FOR FROST SUSCEPTIBILITY)

CAR PARK CONSTRUCTION

40mm	SURFACE COURSE SMA 10 SURF 40/60
90mm	BINDER COURSE AC20 HDM DENSE BIN 40/60
320mm	TYPE 1 SUB BASE (FOR FROST SUSCEPTIBILITY)

FOOTWAY CONSTRUCTION

20mm	SURFACE COURSE AC6 CLOSE SURF 100/150
50mm	BINDER COURSE AC20 DENSE BIN 160/220 REC
150mm	TYPE 1 SUB BASE

CONCRETE HARDSTANDING

200mm	THICK GRADE C32/40 AIR ENTRAINED CONCRETE SLAB WITH 1 LAYER A252 FABRIC (75mm BOTTOM COVER, 400mm LAPS), ON 1000 GAUGE POLYTHENE SLIP MEMBRANE,
250mm	TYPE 1 SUB BASE

SOFT LANDSCAPING

150mm	TOPSOIL AND SEED AS REQUIRED

EXISTING SEWER EASEMENT

Rev	Date	Details	Chkd

Environmental Compliance Ltd.
Unit G1
The Willowford
Main Avenue
Treforest Industrial Estate
Pontypridd.
CF37 5BF
Tel: 01443 801215
Email: info@ecl.world
Web: www.ecl.world

Client: Chorley Council

Date	Scale	Drawn by	Checked by	Approved by
19/12/2024	1:500 @ A3	GTB	SC	SC

Drawing Status: WORKING DRAWING

Project Title:
ENVIRONMENTAL PERMIT APPLICATION
CHORLEY COUNCIL
ACKHURST BUSINESS PARK
ACKHURST ROAD
CHORLEY. PR7 1NH

Drawing Title: SITE LAYOUT PLAN

Drawing Number	Rev
CHBC.01.01-02	-

LEGEND

- SITE BOUNDARY
- ENVIRONMENTAL PERMIT BOUNDARY
- 1000m OFFSET BOUNDARY
- EDUCATIONAL BUILDINGS
- COMMUNITY / MEDICAL CENTRES
- DOMESTIC DWELLINGS
- COMMERCIAL / INDUSTRIAL PREMISES
- GRASS / SHRUB
- TREES / WOODS
- ROAD FEATURES
- RAILWAY FEATURES
- SURFACE WATER FEATURES

Rev	Date	Details	Chkd

Environmental Compliance Ltd.
Unit G1
The Willowford
Main Avenue
Treforest Industrial Estate
Pontypridd.
CF37 5BF

Tel: 01443 801215
Email: info@ecl.world
Web: www.ecl.world

Client: Chorley Council

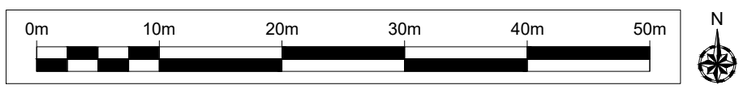
Date	Scale	Drawn by	Checked by	Approved by
19/12/2024	1:7.5K @ A3	GTB	SC	SC

Drawing Status: WORKING DRAWING

Project Title:
ENVIRONMENTAL PERMIT APPLICATION
CHORLEY COUNCIL
ACKHURST BUSINESS PARK
ACKHURST ROAD
CHORLEY. PR7 1NH

Drawing Title:
SENSITIVE RECEPTOR PLAN

Drawing Number	Rev
CHBC.01.01-03	-



BAYS

G2	HAZARDOUS WASTE COVERED MESH COMPOUND 6.25m(W) x 6.5m(D) X 2.5m(H)
G3	WEEE SKIP 12 YARD SKIP 3.7m(W) x 1.75m(L) X 1.7m(H)
G4	STREET CLEANING RESIDUE CONCRETE BAY 6.15m(W) x 6.5m(D) X 2.5m(H)
G5	GREEN WASTE CONCRETE BAY 3.5m(W) x 6.5m(D) X 2.5m(H)
G6	GENERAL WASTE CONCRETE BAY 4.5m(W) x 6.5m(D) X 2.5m(H)
G7	GENERAL WASTE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G8	STREET CLEANING RESIDUE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G9	GREEN WASTE 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G10	SCRAP METAL 35 YARD SKIP 2.44m(W) x 6.1m(L) X 2.39m(H)
G17	DOMESTIC WASTE CONTAINING PERSISTENT ORGANIC POLLUTANTS 35 YARD CONTAINER 2.44m(W) x 6.09m(L) X 2.1m(H)
G18	TYRES CONCRETE BAY 3.2m(W) x 3.125m(D) X 2.5m(H)
G24	NON CONFORMING WASTE / QUARANTINE AREA / HOT LOADS CONCRETE BAY 4.5m(W) x 4.5m(D) X 2.5m(H)
H2	VEHICLE WASH, WATER RUN OFF TO GO THROUGH INTERCEPTORS, SUMP WASTE COLLECTOR REQUIRED.
H3	VEHICLE WATER FILL

LEGEND

- SITE BOUNDARY
- ENVIRONMENTAL PERMIT BOUNDARY
- BAY FIRE WALLS
- BUILDINGS
- EMERGENCY VEHICLE ACCESS
- FIRE PREVENTION PLAN EMERGENCY PACK
- FIRE HOSE
- SPILL KIT
- FIRE EXTINGUISHER
- FIRE HYDRANT

Rev	Date	Details	Chkd

Environmental Compliance Ltd.
Unit G1
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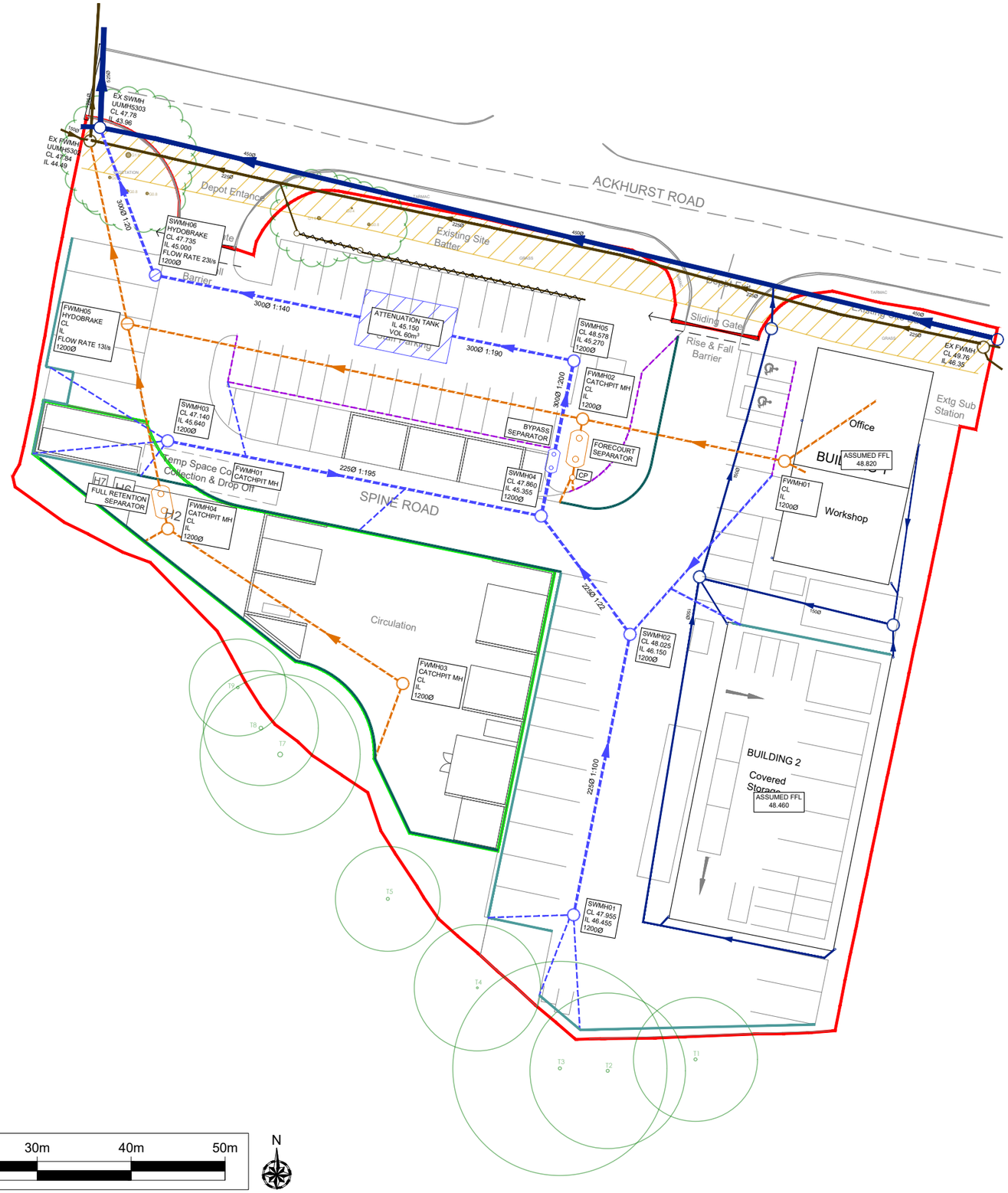
Date	Scale	Drawn by	Checked by	Approved by
06/01/2025	1:500 @ A3	GTB	SC	SC

Drawing Status: WORKING DRAWING

Project Title:
ENVIRONMENTAL PERMIT APPLICATION
CHORLEY COUNCIL
ACKHURST BUSINESS PARK
ACKHURST ROAD
CHORLEY. PR7 1NH

Drawing Title:
FIRE PREVENTION AND MITIGATION PLAN

Drawing Number	Rev
CHBC.01.01-04	-



0m 10m 20m 30m 40m 50m

N

LEGEND

- SITE BOUNDARY
- ENVIRONMENTAL PERMIT BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED KERB DRAIN
- PROPOSED CHANNEL DRAIN
- PROPOSED FILTER DRAIN
- EXISTING SURFACE WATER DRAINAGE (ASSUMED SURFACE WATER SEWER)
- EXISTING FOUL WATER DRAINAGE (ASSUMED FOUL SEWER)
- ABANDONED FOUL WATER DRAINAGE
- EXISTING SEWER EASEMENT

Rev	Date	Details	Chkd

Environmental Compliance Ltd.
Unit G1
The Willowford
Main Avenue
Treforest Industrial Estate
Pontypridd.
CF37 5BF
Tel: 01443 801215
Email: info@ecl.world
Web: www.ecl.world

Client: Chorley Council

Date	Scale	Drawn by	Checked by	Approved by
19/12/2024	1:500 @ A3	GTB	SC	SC

Drawing Status: WORKING DRAWING

Project Title:
ENVIRONMENTAL PERMIT APPLICATION
CHORLEY COUNCIL
ACKHURST BUSINESS PARK
ACKHURST ROAD
CHORLEY. PR7 1NH

Drawing Title:
DRAINAGE ARRANGEMENTS PLAN

Drawing Number	Rev
CHBC.01.01-05	-

APPENDIX II
ENVIROCHECK REPORT
Email s.cann@ecl.world for report - too large to upload

APPENDIX III
THE COAL AUTHORITY
COAL MINING REPORT

ECL Ref: CHBC.01.01/ASCR
Version: Issue 1
January 2025

The Coal Authority

CON29M
coal mining report

7-8, CHORLEY, LANCASHIRE, PR7 1NH

Known or potential coal mining risks

Future underground coal mining **Page 4**

Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit www.groundstability.com

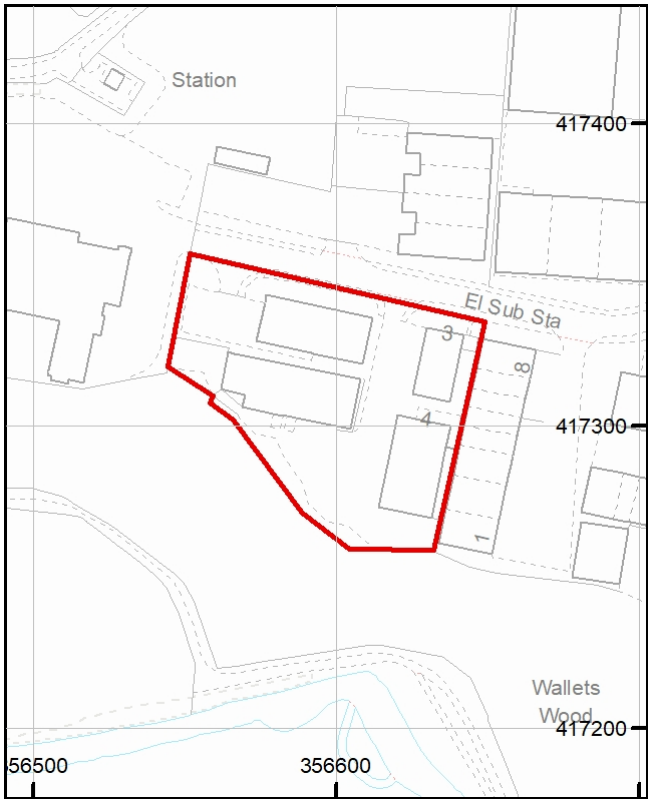
Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**

Map data

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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on 0345 762 6848 or email cmra@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover

Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.
www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form

Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call 0800 288 4242. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary

Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

mine gas - reports of alleged mine gas emissions received by the Coal Authority within the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

APPENDIX IV
SITE INVESTIGATION REPORT

Ackhurst Road, Chorley

Phase 2 Geo-Environmental Investigation, Risk Assessment and Outline Remediation Strategy

Job Number: LKC 23 1566

Date: September 2024

Client: Chorley Borough Council

INCREASING LAND VALUE

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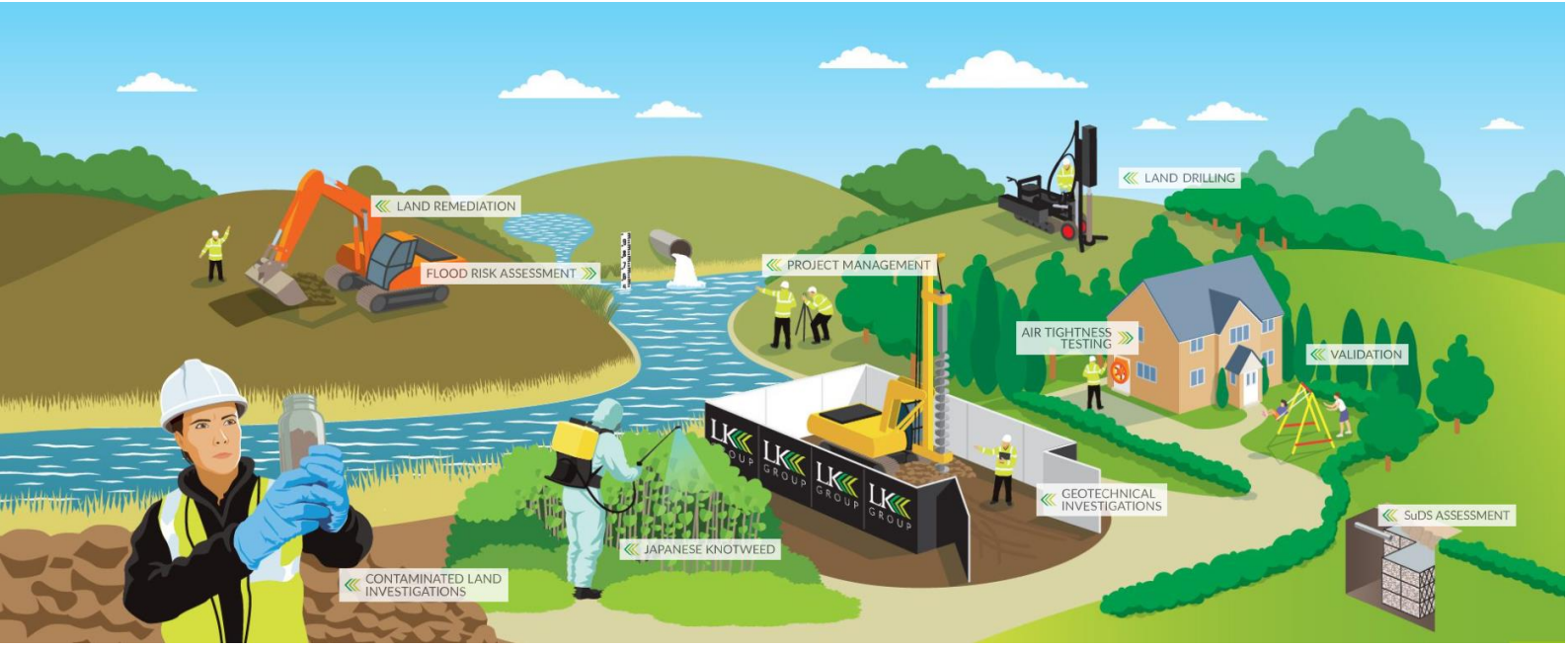

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Ground Investigation | Land Remediation | Project Management

CONSULT

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Company registered in England and Wales No. 06767704

DOCUMENT QUALITY ASSURANCE

Site Address	Common Bank Industrial Estate, Ackhurst Road, Chorley PR7 1NH
Report Title	Phase 2 Geo-Environmental Investigation, Risk Assessment and Outline Remediation Strategy
Job Number	LKC 23 1566
Client	Chorley Borough Council

Revision	0	**Date of Issue**	27/09/2024
Document Ref:	LKC 23 1566 -B1-GI-Ackhurst Road R0		
Status	Draft for comment		
Written By	Michael Berry / Hannah Moss		
Approved By	Peter Dunn		

Revision		**Date of Issue**	
Document Ref:			
Status			
Written By			
Approved By			

Revision		**Date of Issue**	
Document Ref:			
Status			
Written By			
Approved By			

DISCLAIMER

This report has been prepared by LK Consult Ltd (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation, or assurance as to the accuracy or completeness of such information.

This report is issued on the condition that LKC will not be held liable for any loss arising from ground conditions between sampling points (i.e., boreholes/trial pits/hand augers/surface samples) which have not been shown by the sampling points or related testing carried out during the investigation, nor for any loss arising from conditions below the maximum depth of the investigation. Opinions on such conditions, where given, are for general guidance only.

This report is prepared solely for the benefit of the client named above. It may not be relied upon by or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance, and regulatory approval until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

EXECUTIVE SUMMARY

Site Details

Location	Located within Common Bank Industrial Estate, south of Ackhurst Road, Chorley. Centred at National Grid Reference 356600E, 417310N.
Area	6,000m^2.
Topography	45 metres above ordnance datum (AOD). Gently slopes down to the south. Terracing present on site.
Current Site Use	Site currently comprises 4no. separate industrial units. Two units are currently vacant, one is used for storage of products for Kerax Ltd and one is an active wax works (Kerax Ltd).
Proposed Development	Demolition of 2 no. steel frame buildings to be replaced by parking area for council vehicles. Conversion of 1 no. brick buildings and 1 no. steel framed building into office space and covered storage.

Site Setting

Main Historical Features	Onsite: electricity substation, industrial estate. Surrounding Area: sand pit, ponds, sludge beds, reservoir, filter beds, depots, works.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: Till, Devensian (diamicton). Secondary Undifferentiated Aquifer. Bedrock: Milnrow Sandstone (sandstone), Pennine Lower Coal Measures (sandstone). Secondary A Aquifer.
Landfills / Infilled Ground	No recorded landfills. Potentially infilled ground identified.
Site Reconnaissance	No visual or olfactory evidence of significant hydrocarbon contamination noted at the surface of the site.
Recommendations	Site Investigation was recommended to further assess geo-environmental risk.

Ground Investigation Work Undertaken

Date of Investigation:	5th and 6th August 2024.
Intrusive Investigation Work Undertaken:	13no. window sample boreholes. Contamination and geotechnical testing. Gas monitoring. Groundwater monitoring.

Ground Conditions

Made Ground	Encountered in all boreholes from to depths of 0.50mbgl to 4.00mbgl and comprised sandy clayey gravel, gravelly silty sand and soft consistency gravelly slightly sandy clay with constituents including ash, clinker, brick fragments, tarmacadam and rare metal.
Superficial	Superficial strata comprised firm to stiff consistency medium to very high strength slightly gravelly sandy clay with occasional bands of fine to coarse sand. Topsoil in WS111 t0 0.40mbgl.
Bedrock	Not encountered.
Groundwater	Groundwater strikes were recorded between 0.20mbgl and 0.50mbgl in WS101 and WS107.
Obstructions	SPT refusal at 1.20m in WS101 within the made ground. Very dense made ground at 0.50mbgl within WS101A/B. Concrete encountered at 0.30mbgl within WS113.

Geotechnical Assessment

Concrete Requirements	Based on BRE Digest 20051 – DS-1 AC-1 across most of the site. DS-2 AC-2 may be required in the vicinity of WS101B.
Services	Services – consideration to the presence of services running through the site. Services may need to be re-routed.
Temporary support of excavation	May be required; however, boreholes were generally recorded as stable. No shallow groundwater recorded.
Plasticity	A low volume change potential has been calculated for the site.
Road / Pavement Design	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. Based on the plasticity index the soils may be frost susceptible.

Contamination Risk Assessment

PL	Contaminant	Risk	Recommendations
1	Metals Asbestos PAHs Petroleum hydrocarbons Other inorganic / inorganic contaminants	Low	No remediation required.
2	Naphthalene and Other volatile contaminants	Low	No remediation required.
3	Carbon dioxide and methane	Low	No remediation required.
4	Mobile contaminants	Low	No remediation required.
5	Organic contaminants.	Moderate / Low	Utility provider risk assessment to be completed. The site will likely require barrier piping.

Waste Assessment

The following samples are classified as hazardous.

Location and Depth	Contaminant	Total Number of Samples	Hazard Property
WS101B 0.1-0.5m	TPH, ethyl benzene, xylene	18	HP3 Flammable HP7 Carcinogenic HP11 Mutagenic

Recommendations

PL	Recommendation
1	No remediation required.
2	No remediation required.
3	No remediation required.
4	No remediation required.
5	Potable water pipe assessment required.

Other Considerations
Unexpected Contamination
Decommissioning of Boreholes
Grubbing Out of Inground Structures
Re-use of Site Generated Material
Stockpile Management

Disposal
Control of Water
Health and Safety Considerations
Chemical validation of imported soils

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Appendix E – Certificates of Analysis (Water)
Appendix F – Generic Assessment Criteria Values
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Appendix H – HazWaste Online Classification Output Sheets
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1. Introduction

1.1. Background

LK Consult Ltd (LKC) has been commissioned to carry out a Phase 2 Geo-Environmental Investigation, Risk Assessment and Outline Remediation Strategy for Ackhurst Road. The investigation was undertaken in support of a future planning application to develop the site for commercial use. A planning application is already in place for the demolition of the current steel framed buildings (24/00327/DEMCON).

The following work has previously been undertaken:

- Preliminary Risk Assessment (PRA) report, undertaken by LKC (Ref: LKC 23 1566-A1-PRA-ACkhurst Road, Chorley R0, dated 17th October 2023).

This investigation has been undertaken to confirm the ground conditions below the site and to allow a contamination and geotechnical assessment to be undertaken, and to allow baseline conditions in support of future environmental permit to be established.

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

A summary of the site details is presented in Table 1-1. Figure 1 indicates the site location and boundary plan. Figure 2 indicates the proposed development.

Location	Located within Common Bank Industrial Estate, south of Ackhurst Road, Chorley. Centred at National Grid Reference 356600E, 417310N.
Area	6,000m^2.
Topography	45 metres above ordnance datum (AOD). Gently slopes down to the south. Terracing present on site.
Current Site Use	Site currently comprises 4no. separate industrial units, all of which are now vacant, having recently been vacated by Kerax Ltd (an active wax works). A bulk storage tank is present in the SW corner.
Proposed Development	Demolition of 2 no. steel frame buildings to be replaced by parking area for council vehicles. Conversion of 1 no. brick buildings and 1 no. steel framed building into office space and covered storage with new car parking and road layout.

Table 1-1: Summary of site details.

2. Summary of Preliminary Risk Assessment (PRA)

2.1. Phase 1 Preliminary Risk Assessment (PRA)

Pertinent information has been summarised from the PRA in Table 2-1.

Main Historical Features	Onsite: electricity substation, bulk storage container, industrial estate. Surrounding Area: sand pit, ponds, sludge beds, reservoir, filter beds, depots, works.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: Till, Devensian (diamicton). Secondary Undifferentiated Aquifer. Bedrock: Milnrow Sandstone (sandstone), Pennine Lower Coal Measures (sandstone). Secondary A Aquifer.
Landfills / Infilled Ground	No recorded landfills. Potentially infilled ground identified.
Site Reconnaissance	No visual or olfactory evidence of significant hydrocarbon contamination noted at the surface of the site.

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

Table 2-2 summarises the geotechnical constraints.

Coal Mining	Site is not within a development high risk area. No further assessment required.
Slope Stability	Site is relatively flat. No further assessment required.
Made Ground	Unknown depth and constituent of made ground across the site.
Superficial	Unknown strength of soils for foundation design.
Bedrock	Unknown depth to bedrock.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Plasticity of clay deposits should be confirmed.
Sulphate	Unknown sulphate content of the made ground and natural.
Road / Pavement Design	Unknown CBR values for footpath and road design should be calculated.

Table 2-2: Summary of geotechnical constraints.

2.2. Conceptual Model

The preliminary contamination conceptual model using contaminant-pathway-receptor linkages based on guidance in LCRM[3] has been summarised in Table 2-3.

Each pollutant linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552[4]. The risk matrix is provided in Appendix A.

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

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

PL	Contaminants of Concern (source)	Pathway	Receptor	Probability	Consequence	Risk	Recommendations
1	Asbestos (identified on buildings on site)	Dermal contact. Inhalation of soil, fibres and dust. Ingestion of soils, dust. Windblown dust.	Current site users. Offsite receptors	Likely	Medium	Moderate	Likely probability as potential ACM identified during site reconnaissance. Asbestos management plan recommended.
	Heavy metals, PAHs, organic and inorganic compounds, oils, petroleum hydrocarbons. (shallow made ground, on site works, offsite industrial land use)			Low likelihood		Moderate / Low	Landscaped areas are not very accessible by site users/workers (very small areas adjacent to car park). Limited direct contact with any potentially contaminated soil. No further assessment required at this stage. Future planning applications may require site investigation and risk assessment.
2	Petroleum hydrocarbons, Naphthalene (onsite works, offsite industrial land use)	Inhalation of vapours. Migration via permeable strata and preferential pathways.	Future site users. Offsite receptors.	Low likelihood	Medium	Moderate / Low	Office / welfare spaces within buildings, however remainder of buildings well-ventilated and used as commercial premises; therefore, risk considered minimal. No further assessment required at this stage. Future planning applications may require site investigation and risk assessment.
3	Hazardous / ground gas: methane, carbon dioxide (infilled features within 250m, however clay anticipated below site that will limit lateral migration, and units are open plan and well ventilated)	Migration via permeable strata and preferential pathways. Inhalation of gas. Explosion in confined spaces.	Future site users. Buildings. Offsite receptors.	Unlikely	Severe	Moderate / Low	No onsite sources identified, and clay anticipated beneath site that will limit lateral migration. Office / welfare spaces within buildings, however remainder of buildings well-ventilated and used as commercial premises. No further assessment required at this stage Future planning applications may require site investigation and risk assessment.
4	Petroleum hydrocarbons, PAHs, metals, naphthalene (onsite works)	Surface run-off. Migration via permeable strata and preferential pathways. Perched waters migration.	Groundwater Surface water	Low likelihood	Medium	Moderate / Low	Given the majority of site is hardstood and clay is anticipated below site, the pathway for mobile contaminants is considered limited. No fuel storage noted on site and any storage containers identified didn't show evidence of spillages and / or leakages. No further assessment required at this stage. Future planning applications may require site investigation and risk assessment.
5	Petroleum hydrocarbons, Naphthalene (onsite works, off site industrial land use)	Permeation of pipes. Ingestion of tainted water supply.	Future site users.	Low likelihood	Medium	Moderate / Low	Material of mains water supply unknown. Unknown depth and composition of made ground. It is considered prudent to confirm pipe work construction. Future planning applications may require site investigation and risk assessment.

Table 2-3: Preliminary Contamination Conceptual Model.

3. Ground Investigation

3.1. Site Investigation Design and Methodology

The investigation was carried out on 5th and 6th August 2024 and comprised the following:

- 13 no. window sample boreholes drilled to 3.45-5.45 metres below ground level (mbgl) (ref. WS101 to WS113).

All site investigation locations are shown in Figure 3.

The locations were chosen to allow adequate assessment of ground conditions across the site and to target areas of concern. Table 3-1 details the site investigation locations.

Site Investigation Locations	Rationale
WS112	Targeting the existing substation in the north-east of site and the limited area of soft landscaping.
WS110	Targeting storage tanks in SW corner.
WS101-WS113	Site coverage.

Table 3-1: Summary of Sampling Locations.

WS101 had to be re-positioned twice due to refusal on dense made ground between 0.50m and 1.20mbgl. The repositioned boreholes are referenced WS101A and WS101B.

WS113 was repositioned (WS113A) due to concrete at 0.30mbgl. The extent of the concrete was not proven.

WS112 was re-positioned (WS112A) due to potential services at 3.00mbgl. The electricity substation was still operational, and sampling could not be undertaken close to the feature. Further assessment may be required in this area if the substation is to be removed.

Areas where buildings are still present could not be accessed.

The number of site investigation points corresponds to approximately one location per 22m square centres. This is considered to be a conservative sampling density and is in line with BS10175[5] for a 'detailed investigation'.

All profile logs are provided in Appendix B and are in line with BS14688-1[6] and BS5930[7].

3.2. Well Installations

10no. (WS102-WS105, WS108-WS113A) of the boreholes were installed with monitoring wells for groundwater monitoring and sampling. Monitoring wells were installed in accordance with BS10175 and CIRIA C665[8] 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.

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 investigation[9]. A conservative number of samples were taken to establish baseline conditions.

Soil was collected for onsite testing for total volatile organic compounds (TVOCs) using a photoionisation detector (PID) fitted with a 10.6eV lamp and moisture trap. 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. Results of the PID readings are presented on the profile logs (Appendix B). The onsite monitoring was carried out in line CIRIA C665[10] to aid in screening samples for volatile analysis.

Soil samples of approximately 500g were recovered in amber jars and plastic tubs. All the samples were sent to DETS laboratory for chemical testing.

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.

Testing	No. Samples	Justification
Metals / metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.	7	A basic suite with a broad selection of contaminants where no significant evidence of contamination was identified (except for occasional ash, clinker and coal).
Metals / metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, SOM and asbestos screen.	9	Although no evidence of contamination identified, detailed suite undertaken to confirm the absence of contamination.
Metals / metalloids, pH, sulphate, cyanide suite, TPHCWG, BTEX, MTBE, speciated PAHs, phenol, VOCs, SVOCs, PCBs and asbestos screen.	1	A more detailed suite (inc. PCBs) nearby the former electrical substation.
TPHCWG, BTEX, MTBE and SOM.	1	Petroleum hydrocarbon suite to confirm absence of hydrocarbon contamination.

Table 3-2: Summary of Soil Testing.

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, PCB=polychlorinated biphenyls, SOM=Soil Organic Matter.

3.3.2. Soil Sampling (Geotechnical)

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

Further details are given in the laboratory report presented in Appendix D. Table 3-3 shows the geotechnical testing undertaken.

Testing	No. Samples
Atterberg Limits (plasticity testing)	14
BRE Suite Short	3

Table 3-3: Summary of Geotechnical Testing Undertaken.

3.3.3. Water Sampling / Leaching Testing

To establish the condition of shallow groundwater LKC undertook 2no. groundwater samples to establish basement line conditions on site.

Sampling was carried out in accordance with BS5930[11] and BS5667-11[12].

The groundwater samples were collected a minimum of 1 week after drilling had finished. Sample collection was undertaken using a low flow sampling pump. 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 BS10175[13] guidelines.

Due to insufficient water volume in the majority of the boreholes, groundwater samples could not be obtained in many positions. Therefore, leaching tests were undertaken across the remainder of the as an alternative to establish basement line conditions on site.

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

The samples were sent to DETS laboratory for analysis. The sampling suite is presented in Table 3-4.

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

Testing	No. Samples	Justification
Metals / metalloids, pH, sulphate, cyanide suite, TPHCWG, BTEX, MTBE, speciated PAHs, phenol, and hardness.	7 (G/L)	Detailed suite undertaken at non-targeted locations (WS102-WS108) across the site to confirm the absence of contamination.

Table 3-4: Summary of Groundwater/Leachate Tests Undertaken.

Notes:

L=Leachate Sample; G=Groundwater Sample.

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.

3.4. In-situ Testing

3.4.1. Geotechnical Testing

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

- Standard Penetration Tests (SPTs) were performed in the window sample boreholes at approximately 1m intervals.

- Pocket penetrometer tests (giving undrained shear strength) were performed in the window sample boreholes within cohesive strata.

Pocket penetrometer tests were not always possible due to the gravel rich nature of some of the clay deposits.

The results are provided within Appendix B.

3.5. 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). No further assessment was recommended but it was advised that further assessment may be required for future planning applications.

4. Ground Conditions

4.1. Geology

The ground conditions beneath the site are summarised below. Logs are provided in Appendix B.

4.1.1. Made Ground

The site surface comprises concrete in WS103-WS106, WS110, and WS113 ranging in thickness between 0.15-0.30m.

Tarmacadam is present at the site surface in WS101 and WS107-WS109 between 0.10-0.15m thick.

Made ground was recorded in all boreholes to depths of 0.50-4.00mbgl. The depth of made ground was not proven in WS112 as the borehole terminated at 4.00mbgl in made ground.

The majority of site is underlain by made ground to depths of between 0.50-1.2mbgl and comprised 3 main types as detailed below:.

- Sandy clayey gravel with occasional ash, clinker, sandstone, brick fragments and rare metal was encountered within WS101, WS102, WS110 and WS113 from depths of between 0.10-0.30mbgl to a maximum depth of 1.20mbgl.
- Gravelly occasionally silty sand with occasional ash, clinker, tarmacadam fragments and brick fragments was encountered within WS101B/C, WS107-WS109 from depths of between 0.10-0.30mbgl to a maximum depth of 0.80mbgl.
- Soft consistency gravelly slightly sandy clay with brick fragments, ash and clinker was encountered within WS103 to WS106 from depths of between 0.20m and 0.30mbgl to a maximum depth of 1.00mbgl.

Deep made ground was encountered within WS112 and WS112A to depths of greater than 4mbgl. The deeper made ground comprised soft consistency slightly gravelly sandy clay with sandstone and mudstone underlain by reddish grey gravel with brick fragments and limestone from 3.00mbgl..

Topsoil was recorded in WS112 to 0.50mbgl over made ground to 4.00mbgl.

A slight organic odour was noted within the made ground of WS101 between 0.30-1.20mbgl.

4.1.2. Natural Strata

Topsoil (gravelly clayey sand) was recorded in WS111 between 0.0-0.40mbgl.

Superficial strata comprised firm to stiff consistency medium to very high strength slightly gravelly sandy clay with occasional bands of fine to coarse sand.

An organic clay was recorded in WS105 between 0.50-1.00mbgl.

Bedrock was not encountered during the investigation.

4.1.3. Contamination

Except for the anthropogenic material encountered in the made ground (as described above), no further contamination was identified.

There was no visual or olfactory evidence of hydrocarbons or volatile contaminants in any locations. The PID recorded a maximum of 19.5ppm TVOC in the samples.

4.1.4. Obstructions

The following obstructions were encountered:

- SPT refusal at 1.20m in WS101 within the dense made ground.
- Very dense made ground at 0.50mbgl within WS101A/B.
- Concrete encountered at 0.30mbgl within WS113.

4.2. Groundwater

4.2.1. Groundwater Levels

Groundwater strikes were recorded during the investigation in boreholes. This data is provided in the profile logs (Appendix B). Groundwater strikes were recorded between 0.20mbgl and 0.50mbgl in WS101 and WS107. No groundwater strikes were recorded in the remainder of the boreholes.

Groundwater monitoring within the borehole wells has been undertaken on one occasion. An oil-water interface probe was used to detect the presence of free phase hydrocarbons within each borehole. Monitoring levels were recorded between 1.25mbgl and 4.92mbgl in WS102-WS105 and WS108-WS113.

4.2.2. Contamination

No evidence of contamination was identified in the groundwater during investigation work or monitoring. No free phase hydrocarbons were detected.

5. Geotechnical Assessment

5.1. Proposed Development

It is understood that the proposed development will comprise earthworks to create a level platform and development of a vehicle parking area with conversion of existing brick and steel buildings. No new buildings are proposed within the development.

A draft cut and fill plan (Ref: 33650-HYD-XX-XX-DR-D-0201 P1 Earthworks Volumes DRAFT) has been produced by Stantec. It is anticipated that a large proportion of the site is to be filled by up to 1.94mbgl. 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 considered in the following assessment. Any such works should be designed so as not to influence, or compromise, proposed or existing foundations or ground stability.

Given the nature of the proposed development the structure meets the criteria of Geotechnical Category 1 of Eurocode 7[14].

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. Superficial strata comprised firm to stiff consistency medium to very high strength slightly gravelly sandy clay with occasional bands of fine to coarse sand to the completion depths investigated.

An organic clay was recorded in WS105 between 0.50-1.00mbgl.

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[15]. 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.

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. Based on site observations the near surface soils may require at least some treatment or reinforcing to allow safe movement of construction plant and labour.

5.4. Plasticity

Clay samples were subjected to Atterberg Limits (plasticity) and Moisture Content testing. Results are provided in Appendix C.

The clay is classified as low plasticity.

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%) characterises the clay as having a medium volume change potential.

5.5. Pavement Construction

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 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.

If the formation is particularly soft may need to recommend additional work to assess settlement and use of geogrids to reduce differential settlement. This is particularly true with adopted roadways.

5.6. Drainage

The presence of 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.

5.7. Concrete Durability

Based upon the results of the chemical analyses (Appendix C), subsurface concrete can be designed in accordance with Design Sulphate Class DS-1, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-1s in accordance with the recommendations provided in BRE Special Digest 1 (2005) across the majority of the site. A localised area of the site (WS101B) where the subsurface concrete can be designed in accordance with Design Sulphate Class DS-2, Aggressive Chemical Environment for Concrete Classification (ACEC) AC-2s due to elevated sulphate concentrations.

5.8. Excavations

Site observations indicated that excavations should be feasible in the near surface with normal plant, however obstructions were identified in the near surface including concrete slabs. It is anticipated that any obstructions will be grubbed out during the reduced level dig for the sub structure works.

Due to the variability of the made ground all excavations should be supported or battered back in accordance with guidance contained in CIRIA R97[20].

5.9. Re-Use of Materials

Consideration has been given to the potential re-use of site won arisings from substructure works as an engineered fill. The soils have been assessed using the following:

- Physical description of the soils encountered (variability and organic content).
- Moisture Content and plasticity data in relation to Specification for Highway Works.
- Undrained Shear Strength (lower s_u of 40 kN/m²); and,
- Plasticity Data (lower moisture content equals LI of 0.15).

Based on this, the soils are suitable for re-use as a general engineered fill in accordance with Class 2A of the Specification for Highway Works.

5.10. Minerals

There are no minerals of economic value underlying the site at shallow depth and mining is considered to be very unlikely. There are no mine entries recorded or likely at this site.

The site is considered to be minerally stable.

5.11. 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[21] utilised.
- 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).

5.12. Enabling Works

It is considered that the ground will require preparation to facilitate a developable platform for the first stage of construction works.

As referenced in Section 5.3, obstacles such as concrete slabs and services can be anticipated on site from historical land uses and it is recommended that these are grubbed out as part of a general site turnover to remove obstacles.

The enabling works should also cover activities such as undertaking site preparation works including pre commencement surveys of the site and surrounding areas, preparation of access routes and providing suitable piling mats if required, surveying the site and producing topographical plans on completion of the earthworks, as well as installation of safety signs and security fencing.

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 (LCRM[22]). 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) [23, 24].
- LQM Suitable 4 Use Levels (S4ULs) [25, 26, 27, 28].

The proposed development is for commercial end use therefore the assessment criteria for commercial has been used.

All criteria have been generated using the CLEA V1.06 model[29] based either on 1%, 2.5% and 6% Soil Organic matter (SOM). Results will be compared to the nearest appropriate SOM.

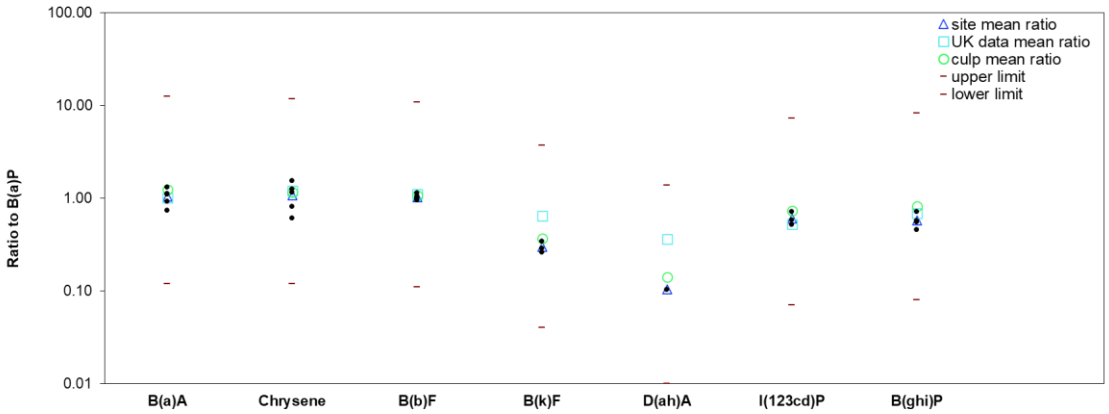
A summary of the generic assessment criteria used in this assessment is provided in Appendix F.

B(a)P as Surrogate Marker

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 PAHs[30,31] and naphthalene the most volatile and soluble[32]. The 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 negligible[33]. For B(a)P to be used as a surrogate marker it should follow the profile described by the HPA (2008)[34] and CL:AIRE (2013). Naphthalene will be treated separately using the LQM S4ULs.

LKC undertook an assessment of the PAH 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*[35], which was based on coal tar mixtures (>80,000mg/kg of total PAHs) fed in food to mice over a two-year carcinogenicity study.

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



Graph 6-1: The ratio of PAH to B(a)P in soil for all available data at the site based on 5 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.

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

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

6.2.2. Soil Results Comparison against Assessment Criteria

All analysis sheets are presented in Appendix C. All the data has been compared to relevant assessment criteria and is presented in Appendix G. No elevated results have been identified.

Asbestos was identified, as detailed in Table 6-1.

Sample Location	ID	Type	Total Asbestos (%)
WS102 (0.1-1.2mbgl)	Chrysotile	Fibre bundles	<0.001

Table 6-1: Details of Asbestos Identified.

6.2.3. Direct Contact Risk – Pollutant Linkage 1

PAHs, metals, petroleum hydrocarbons

No elevated contaminants of concern have been detected when compared to screening values for commercial end use. No visual or olfactory evidence of contamination was noted during the site investigation.

The probability of petroleum hydrocarbon, PAH and metal contamination affecting site users is unlikely. With a medium consequence, the risk is considered to be low, and no remediation is recommended.

Asbestos

Trace asbestos (chrysotile) was identified in WS102. The asbestos was identified as fibre bundles. The source of the asbestos is likely to be from demolished buildings.

No asbestos was encountered in the 13 other samples screened. The asbestos contamination is considered localised to the area around WS102.

The proposed development indicates that the area around WS102 is to be retained and is located below an area of hardstanding, therefore there is no pathway to the site receptors where the asbestos has been identified.

The only area of the site were no hard standing is present (or proposed) is a small area of soft landscaping in the northeast of site. WS112 and WS112A were positioned within this area to confirm ground conditions. Made ground was identified to 3.00mbgl, however a 0.50m thick layer of topsoil was present above the made ground. A sample of this material was tested for contaminants of concern, and no asbestos was identified in the topsoil. The topsoil will likely act a barrier between the underlying made ground and the site users. Given the nature of the development and its commercial use, only a very limited pathway exists and therefore no significant risk is anticipated if asbestos was also present in the made ground in this area.

Additional consideration should also be given to the risk to workers and offsite receptors during groundworks and construction.

6.2.4. Risk from Inhalation of Vapours – Pollutant Linkage 2

No visual / olfactory evidence of volatile contaminants was identified during the investigation. The PID did not detect any significant TVOCs. Confirmatory soil analysis did not detect any VOCs / SVOCs or potentially volatile PAHs / light end hydrocarbon fractions above assessment criteria.

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

6.3. Gas Risk Assessment

Gas monitoring was not carried out as part of this assessment. The PRA identified a moderate/low risk due to no viable onsite source. In addition, the proposed development comprises well-ventilated commercial buildings, therefore no significant risk anticipated.

Given the ground conditions encountered and nature of proposed development, LKC considers the probability of gas posing a risk to site users as unlikely. The consequence is severe, which gives a moderate / low risk. No further action is required with respect to Pollutant Linkage 3.

6.4. Controlled Water Assessment

LKC considers the River Yarrow and Secondary A Aquifer as the primary receptors.

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 Standards[41] and updated Water Framework Directive[42] for Annual Average / Maximum Allowable Concentration Environmental Quality Standards (AA-MAC-EQS) for priority substances.
- 2016 private water supply standards (UKDWS potable)[43].
- 2001 Environment Agency Values for Environmental Quality Standards (EQS).

With regards to hydrocarbon mixtures (TPHCWG) for UKDWS, LKC will use the CL:AIRE guidance on petroleum hydrocarbons in groundwater[45] based on WHO guidelines.

The leaching test is aggressive (de-ionised water) and is not in aqueous equilibrium (steady state) with the solid sample. This may cause rapid dissolution and overestimation of the aqueous phase concentrations compared to groundwater in contact with contaminated soils. Although dissolution may be reduced for highly hydrophobic contaminants[46] such as B(a)P, it is likely that the initial leaching will remove the most readily available hydrocarbons and subsequent flushing would reduce the leachable concentrations[47]. Traditionally the leaching test was developed for inorganic constituents and the leaching of organics is poorly understood[48].

Elevated contaminants above limits of detection are presented in Table 6-3 below and all analysis sheets are presented in Appendices C and E.

Sample Location	Contaminant	Criteria	Total Number of Samples Tested	Sample Result > Criteria
WS102	Copper	1	2 (GW)	14.9
	Zinc	10.4		12
	Chromium	4.7		5
	Nickel	4		14.6
WS104	Copper	1		16.7
	Zinc	10.4		13
	Nickel	4		14.2
WS102 (1.20-1.50mbgl)	Zinc	8	5 (L)	17
	Copper	1		4.2
WS104 (1.00-1.50mbgl)	Copper	1		14.9
	Zinc	10.4		42
WS105 (1.00-1.50mbgl)	Copper	1		7.7
	Zinc	10.4		25
WS106 (0.60-1.00mbgl)	Copper	1		4.9
	Zinc	10.4		22
WS108 (0.40-1.00mbgl)	Copper	1		8.5
	Zinc	10.4		30

Table 6-3: Summary of Elevated Groundwater/Leaching Test Results.

Notes:
All values in ug/l.
GW=Groundwater sample. L=Leaching sample.

Elevation concentrations metals were present in the groundwater and leachate test results.

Elevated metals are likely to be associated with ash and clinker, and therefore not anticipated to be mobile due to the residual crystalline nature of the matrix. The marginally elevated metals concentrations observed are also most likely a reflection of colloidal/sediment material within the sample.

The clay present at depth across the site should significantly reduce any sub-surface migration and processes including dilution, attenuation and biodegradation will reduce the concentration of contamination.

Furthermore, the proposed development is mostly covered by hardstanding preventing leaching from the made ground soils on site.

Given the distance of site to the River Yarrow (40m), the ground conditions encountered and the ground water and leaching results, LKC do not consider that a significant risk is posed to the surface waters.

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

6.5. Potable Water Supply (Pollutant Linkage 5)

Soil results were compared to United Utilities (UU) guidelines for the selection of potable water pipes in land potentially affected by contamination. Only contaminants of concern, based on the preliminary conceptual model and ground conditions encountered, were analysed.

Elevated TPH EC10-16, EC16-EC44, total SVOC and total BTEX and MTBE have been identified at potential pipeline installation depth. Based on the ground conditions, this is likely to be site wide.

Given the proposed development, new potable water supply pipes are unlikely to be installed. The probability is therefore considered to be low likelihood, and with a medium consequence, the risk is moderate / low. No further action required at this stage.

Should potable water supply pipes be proposed, remediation is likely to be required. A UU Water Pipe Risk Assessment in line with the utility provider should be undertaken to confirm the most appropriate pipework for potable water.

6.6. Revised Contamination Conceptual Model

The preliminary contamination conceptual model (Table 2-3) has been revised following the risk assessments undertaken in Sections 6.1-6.4. 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 4.

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

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

PL	Contaminants of Concern	Pathway	Receptor	Probability	Consequence	Risk	Recommendations
1	Asbestos.	Dermal contact. Inhalation of soil, fibres and dust. Ingestion of soils, dust. Windblown dust.	Current site users. Offsite receptors	Unlikely	Medium	Low	No remediation recommended.
	Heavy metals, PAHs, organic and inorganic compounds, oils, petroleum hydrocarbons.			Unlikely		Low	No remediation recommended.
2	Petroleum hydrocarbons, Naphthalene	Inhalation of vapours. Migration via permeable strata and preferential pathways.	Future site users. Offsite receptors.	Unlikely	Medium	Low	No remediation recommended.
3	Hazardous / ground gas: methane, carbon dioxide	Migration via permeable strata and preferential pathways. Inhalation of gas. Explosion in confined spaces.	Future site users. Buildings. Offsite receptors.	Unlikely	Severe	Low	No remediation recommended.
4	Petroleum hydrocarbons, PAHs, metals, naphthalene	Surface run-off. Migration via permeable strata and preferential pathways. Perched waters migration.	Groundwater Surface water	Unlikely	Medium	Low	No remediation recommended.
5	Petroleum hydrocarbons, Naphthalene	Permeation of pipes. Ingestion of tainted water supply.	Future site users.	Low likelihood	Medium	Moderate / Low	No remediation required at this stage and no new potable pipeline installation expected. Local water company risk assessment required if new potable water supply pipes are to be installed.

Table 6-4: Revised Contamination Conceptual Model.

7. Part 2A Liability Assessment

The most seriously contaminated sites are dealt with through the statutory contaminated land regime which can be found in Part 2A of the Environmental Protection Act 1990. Part 2A was inserted into the EPA 1990 by section 57 of the Environment Act 1995.

Under Part 2A, liability for the remediation of contaminated land or waters falls under the 'polluter pays' principle where the 'polluter' is the person (or persons) who 'caused' or 'knowingly permitted' contamination to remain on a site or to migrate to another site.

A 'knowing permitter' is someone who has knowledge of pollution on their land and who fails to take any action to remove or control it, the concept of knowingly permitting means subsequent owners of land can be held liable as well as the original polluter.

If no polluter or knowing permitter can be found after reasonable investigation, then the owner or occupier of the site may be liable to pay the remediation costs.

Part 2A does not apply to all contamination it only applies where:

- significant harm is being caused;
- or there is a significant possibility of significant harm being caused;
- or pollution of controlled waters (such as rivers/groundwater) is being, or is likely to be, caused.

The paragraphs below set out the different categories of harm that should be considered with regard to harm to human health risk. In all cases the harm should be directly attributable to the effects of the contaminants in, on or under the land on the body(ies) of the person(s) concerned[14].

7.1. Liabilities associated with risk to Human Health

Category 1: Human Health - The Local Authority should assume that a significant possibility of significant harm exists in any case where it considers there is an unacceptably high probability, supported by robust science-based evidence that significant harm would occur if no action is taken to stop it.

Category 4: Human Health - The Local Authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low.

Categories 2 and 3: Human Health - For land that cannot be placed into Categories 1 or 4, the Local Authority should decide whether the land should be placed into either: (i) Category 2: Human Health, in which case the land would be capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health; or (ii) Category 3: Human Health, in which case the land would not be capable of being determined on such grounds.

Land should be placed into Category 2 if the authority concludes that there is a strong case for considering that the risks from the land are of sufficient concern. Category 2 may include land where there is little or no direct evidence that similar land, situations or levels of exposure have caused harm before, but nonetheless the authority considers

on the basis of the available evidence, including expert opinion, that there is a strong case for taking action under Part 2A on a precautionary basis.

Human Health Part 2A Assessment

LKC are of the opinion that the site at Ackhurst Road, Chorley would most likely be identified as a 'Category 4: Human Health' site as there is a low risk to human health.

7.2. Liabilities associated with risks to Controlled Waters

Category 1: Water - This covers land where the authority considers that there is a strong and compelling case for considering that a significant possibility of significant pollution of controlled waters exists. In particular this would include cases where there is robust science-based evidence for considering that it is likely that high impact pollution would occur if nothing were done to stop it.

Category 4: Water - This covers land where the authority concludes that there is no risk, or that the level of risk posed is low. In particular, the authority should consider that this is the case where: (i) no contaminant linkage has been established in which controlled waters are the receptor in the linkage; or (ii) the possibility only relates to types of pollution that should not be considered to be significant pollution; or (iii) the possibility of water pollution similar to that which might be caused by 'background' contamination.

Category 2: Water - This covers land where: (i) the authority considers that the strength of evidence to put the land into Category 1 does not exist; but (ii) nonetheless, on the basis of the available scientific evidence and expert opinion, the authority considers that the risks posed by the land are of sufficient concern that the land should be considered to pose a significant possibility of significant pollution of controlled waters on a precautionary basis.

Category 3: Water - This covers land where the authority concludes that the risks are such that the tests set out in Categories 1 and 2 above are not met, and therefore regulatory intervention under Part 2A is not warranted. This category should include land where the authority considers that it is very unlikely that serious pollution would occur; or where there is a low likelihood that less serious types of significant pollution might occur.

Controlled Waters Part 2A Assessment

LKC are of the opinion that the site at Ackhurst Road, Chorley would most likely be identified as a 'Category 4: Water' site as there is a low risk to controlled waters.

7.3. Local Authority Part 2A Register

Under Part 2A of the Environmental Protection Act 1990, all local authorities in England and Wales are required to keep and maintain a Register of land within its area that is determined as contaminated land. All local authorities are encouraged to make arrangements for voluntary remediation with polluters, landowners or occupiers, wherever this is possible.

Sites identified as contaminated will only be entered onto the Register where remediation by the appropriate person or third party cannot be agreed. South Ribble Borough Council will then be responsible to serve a Remediation Notice requiring the

works to be carried out. It is at this point that certain details are required to be made public and entered onto the Register.

There are currently no entries onto the contaminated land register of South Ribble Borough Council[49].

8. Waste Disposal Assessment

8.1. HazWaste 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.

HazWasteOnline™. has been designed to cover, amongst other waste types, the 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, contaminants were selected based on observations during sampling, site history, ground conditions and likely species present in soils (e.g., metal oxides relating to an ash-based source).

Classification output sheets are provided in Appendix H.

The following samples summarised in Table 8-1 are classified as hazardous.

Location and Depth	Contaminant	Total Number of Samples	Hazard Property
WS101B 0.1-0.5m	TPH, ethyl benzene, xylene	18	HP3 Flammable HP7 Carcinogenic HP11 Mutagenic

Table 8-1: Summary of Hazard Properties Based on HazWasteOnline™ Findings.

9. Conclusions

9.1. Ground Conditions

Ground conditions are summarised in Table 9-1 below.

Made Ground	Encountered in all boreholes from to depths of 0.50mbgl to >4.00mbgl and comprised sandy clayey gravel, gravelly silty sand and soft consistency gravelly slightly sandy clay with constituents including ash, clinker, brick fragments, tarmacadam and rare metal.
Superficial	Superficial strata comprised firm to stiff consistency medium to very high strength slightly gravelly sandy clay with occasional bands of fine to coarse sand. Topsoil in WS111 to 0.40mbgl.
Bedrock	Not encountered.
Groundwater	Groundwater strikes were recorded between 0.20mbgl and 0.50mbgl in WS101 and WS107.
Obstructions	SPT refusal at 1.20m in WS101 within the made ground. Very dense made ground at 0.50mbgl within WS101A/B. Concrete encountered at 0.30mbgl within WS113.

Table 9-1: Summary of Ground Conditions.

9.2. Geotechnical

Geotechnical observations and conclusions are contained in Table 9-2 below, more detailed discussions are contained within Section 5.

Concrete Requirements	Based on BRE Digest 2005[51] – DS-1 AC-1 across most of the site. DS-2 AC-2 may be required in the vicinity of WS101B.
Services	Services – consideration to the presence of services running through the site. Services may need to be re-routed.
Temporary support of excavation	May be required; however, boreholes were generally recorded as stable. No shallow groundwater recorded.
Plasticity	A low volume change potential has been calculated for the site.
Road / Pavement Design	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. Based on the plasticity index the soils may be frost susceptible.

Table 9-2: Geotechnical Conclusions Table.

9.3. Contamination Assessment

A revised contamination conceptual model has been produced by LKC which is summarised in Table 9-3 below (more detailed model provided in Section 6).

PL	Contaminant	Risk	Recommendations
1	Metals Asbestos PAHs Petroleum hydrocarbons Other inorganic / inorganic contaminants	Low	No remediation required.
2	Naphthalene and Other volatile contaminants	Low	No remediation required.
3	Carbon dioxide	Low	No remediation required.
	Methane	Low	No remediation required.

4	Mobile contaminants	Low	No remediation required.
5	Organic contaminants.	Moderate / Low	No further assessment required unless pipe work is altered.

Table 9-3: Summary Risk Table.
PL=Pollutant Linkage, see Table 6-4 for details.

9.4. Waste Assessment

The following samples summarised in Table 9-4 are classified as hazardous.

Location and Depth	Contaminant	Total Number of Samples	Hazard Property
WS101B 0.1-0.5m	TPH, ethyl benzene, xylene	18	HP3 Flammable HP7 Carcinogenic HP11 Mutagenic

Table 9-4: Summary of Hazard Properties Based on HazWasteOnline™ Findings.

10. Recommendations and Outline Remediation Strategy

The recommendations/requirements 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.

A summary of remediation requirements is included in Table 10-1.

PL	Recommendation
1	No remediation required.
2	No remediation required.
3	No remediation required.
4	No remediation required.
5	No further assessment required unless pipe work is altered. Potable water pipe assessment required if new pipeline proposed and barrier piping likely to be required.

Table 10-1: Remediation Summary.

Based on the findings of the site investigation and risk assessment, no remediation is required. A watching brief for any unexpected contamination should be maintained during groundworks (refer to Section 10.1), and any imported soils brought to site for use in soft landscaping should be validated to ensure they are suitable for use (refer to Section 10.2).

10.1. Other Considerations

10.1.1. Unexpected Contamination

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.

Impacted soils should be placed on an impermeable surface to await further assessment, treatment, or removal from site (this may be subject to chemical testing to confirm suitable waste facility). The work should be done under the supervision and instruction of an environmental consultant.

To determine that significantly impacted soils have been removed, verification samples will be collected from the base and sides of the excavation. If all impacted ground cannot be removed and contamination remains on the ground, further remediation may need to be considered.

Validation requirements should include a log of work undertaken, including photographs and details of any sampling undertaken and validation of any potential additional remedial work.

10.1.2. Decommissioning of Boreholes

Decommission all existing groundwater sampling, ground gas monitoring and groundwater level monitoring wells by grouting should be undertaken to ensure no contamination of aquifers. Any other boreholes or borehole installations encountered during groundworks should also to be decommissioned.

All borehole and borehole installation decommissioning is to be undertaken in accordance with current EA guidelines[53].

10.1.3. Grubbing Out of In-ground Structures

Surface hard standing and current foundation can be expected across the site. It is recommended that in-ground structures are grubbed out as part of the groundworks.

Hard materials can be used to generate suitable aggregates for re-use on site as part of engineered made ground and/ or construction platforms (subject to geo-environmental testing and client design specifications). Suitable materials derived from grubbing-up should be stored in a location on site, to be agreed with the Engineer, prior to crushing. Any unsuitable materials should be removed to a suitably licensed landfill site.

10.1.4. Re-use of Site Generated Material

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[54]):

- 5,000 tonnes (c. 2,500m^3) treatment of crushed concrete / stone.
- 1,000 tonnes (c. 500m^3) use of non-hazardous soil.
- 5,000 tonnes (c. 2,500m^3) use of clays, sand, gravel, brick, concrete, stone etc.
- 50,000 tonnes (c. 25,000m^3) use of bituminous material to be used in roadways.

A Materials Management Plan (MMP) with recourse to the CL:AIRE Code of Practice[55] 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'.

10.1.5. Stockpile Management

Stockpiled material should be suitably managed. Material should be segregated by type and source. For example, construction / demolition arisings, site won subsoil. Stockpiles may also require covering to minimise the generation of vapours, fibres, dust, and possible nuisance to adjacent receptors, and to prevent rainwater ingress. The source of each stockpile should be recorded and appropriate validation testing for re-use or potential offsite disposal should be undertaken as required.

10.1.6. Disposal

Material required to be removed from site should be undertaken under an appropriate duty of care and the results of chemical analysis should be provided to a licensed landfill for confirmation of waste classification.

Waste records such as disposal tickets and waste carrier licences should be provided in the Site Completion Report. Photographic evidence of removal and waste removal tickets should be retained and included in the validation report.

10.1.7. Health and Safety Considerations

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[56]) should be adopted by all workers involved with site enabling and construction works.

10.2. Validation of Imported / Site Won Soils

Chemical validation of all imported and site-won soils to be used on site in soft landscaping areas should be undertaken, if any is to be imported. 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 10-2 and is based on the YALPAG guidance (2021)[57]. Ideally, the material should be sampled at source to prevent double handling if soil fails, with confirmatory sampling undertaken on importation to site. Where this is not possible then material imported should be segregated based on source and soil type. Validation samples should be taken prior to placement in gardens to ensure suitability for use.

Material Type	**Source**	**Suite of Analysis**	**Sampling Rate**
Topsoil / Subsoil	Greenfield / manufactured / site-won natural	Suite A*	1 sample per 50m^3
	Brownfield / unknown	Suite B**	
Subsoil	Quarried sand	No testing required. Certification of material provenance is required.	
Gravel break layer	Quarried stone	No testing required. Certification of material provenance is required.	
	Recycled stone (6F2 / screened)	Suite B*	1 sample per 500m^3

Table 1010-2: Sampling Requirements for Imported and Site Won Soils.

Notes:

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

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

*Minimum sampling rate of 3 samples per source.

**Minimum sampling rate of 6 samples per source.

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

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 BS3882[58]). LKC advise this information is provided by the supplier before material is imported onto site.

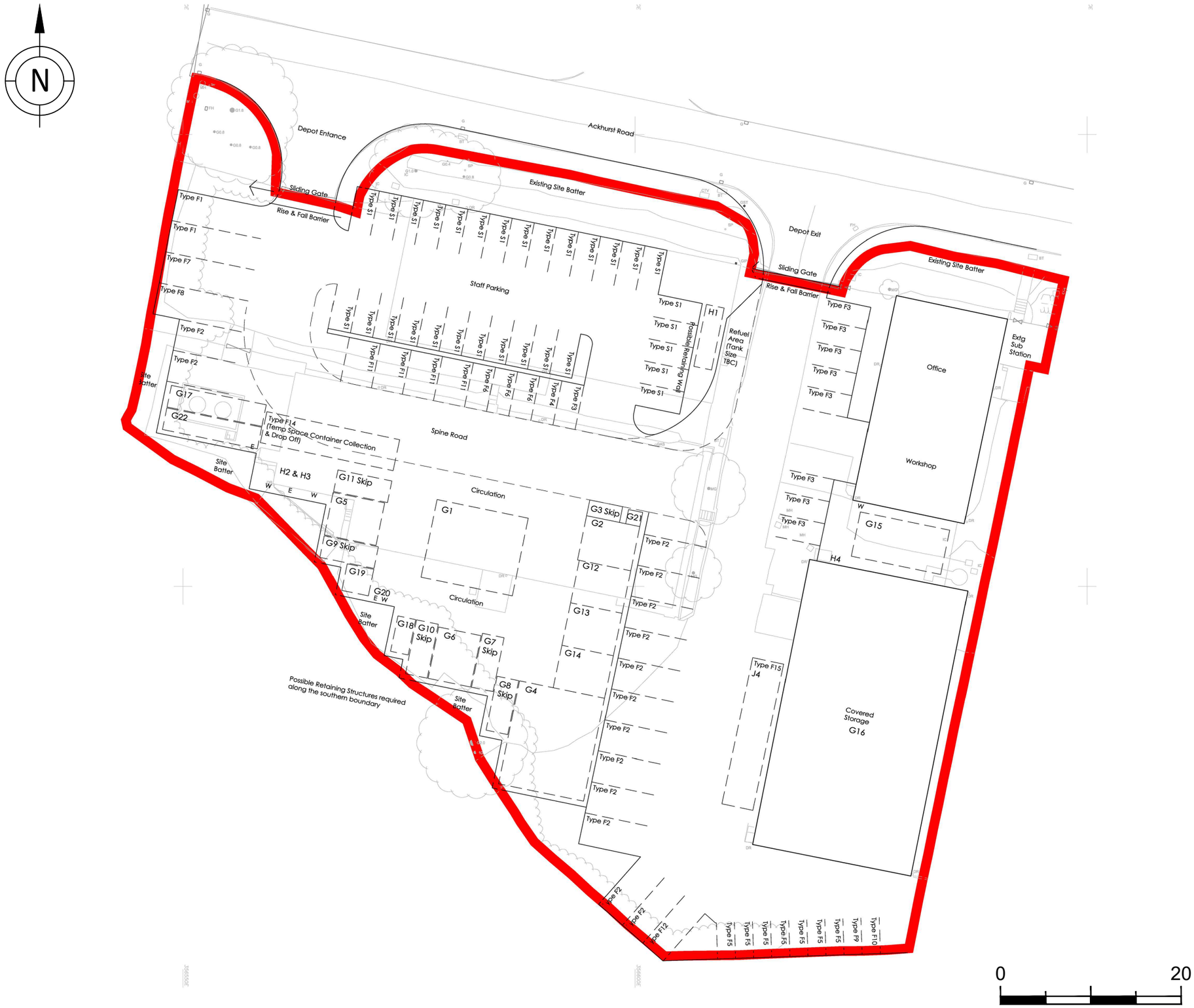
Imported material to be used in gardens will be compared against commercial criteria (as used in the contamination risk assessment in Section 6).

10.3. Site Completion Report

All remediation and validation work should be documented in a Site Completion Report. The Site Completion Report will allow discharge of relevant planning conditions.

Figures

Client: Chorley Borough Council				Title: Site Location & Boundary Plan	LKC CONSULT
Site: Ackhurst Road, Chorley				Scale (see scale bar): 1:25,000 & 1:1,000 @ A4	Figure: 1 / Revision:
Job No.: LKC 23 1566	Drawn By: JW	Checked By: BR	Drawn: Oct 2023		



Extract From: Fletcher Rae
Drawing Ref: Proposed Site Plan, No.24013-HFR-AV-XX-DR-A-9102, Rev:P1 (13/06/2024)

KEY

Site Boundary

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

LK CONSULT LIMITED

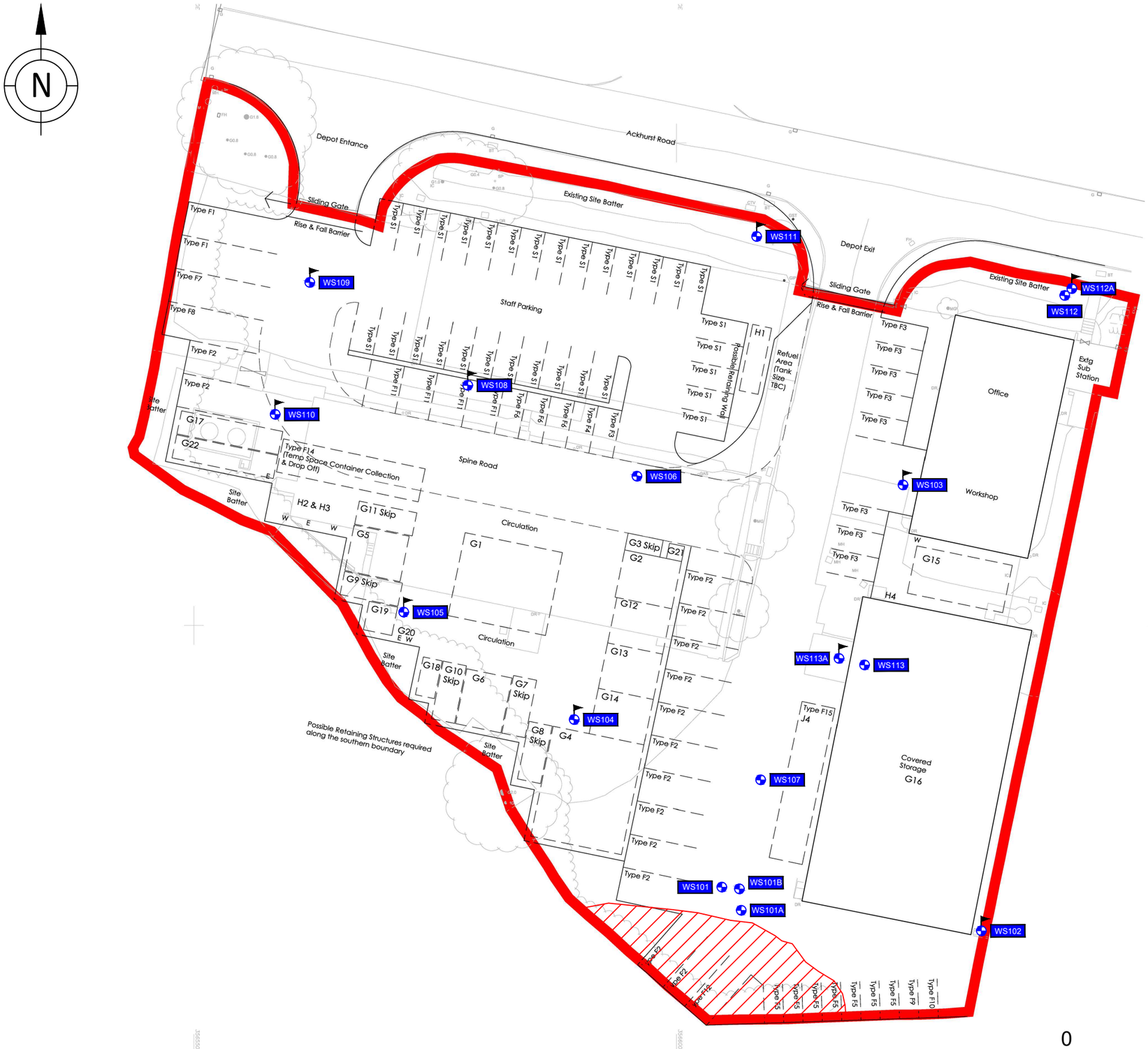
Client: Chorley Borough Council

Site: Ackhurst Road, Chorley

Title: Proposed Site Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC231566	See Scale Bar	2	

Drawn By:	Checked By:	Drawn:
AC	FP	Jul 2024



Extract From: Fletcher Rae
Drawing Ref: Proposed Site Plan, No.24013-HFR-AV-XX-DR-A-9102, Rev:P1 (13/06/2024)

KEY

- Site Boundary
- Window Sample Borehole (WS)
- Installation
- Access Restricted

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

LK CONSULT LIMITED

Client: Chorley Borough Council

Site: Ackhurst Road, Chorley

Title: Site Investigation Location Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC231566	See Scale Bar	3	B

Drawn By:	Checked By:	Drawn:
AC	FP	Aug 2024

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 552[59]. It involves the classification of the:

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

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

Table A. Classification of Consequence

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

Table B. Classification of Probability.

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

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

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

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

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

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

Appendix B – Profile Logs

Window Sample Borehole Log

Location Number: **WS101**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356604.71 N417272.88
Equipment: Window Sample Rig: Competitor Dart	Level: 48.14m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Water Strikes
		0.10		MADE GROUND: TARMACADAM.	48.04	
				MADE GROUND: CONCRETE.		
0.30 - 1.20 0.30 - 1.20	ES PID=4.2ppm	0.30		MADE GROUND: Black with slight organic odour sandy clayey GRAVEL with occasional ash, clinker, sandstone cobbles, brick fragments, and rare metal. Sand is fine to coarse Gravel is fine to coarse, subangular to subrounded comprising sandstone and brick fragments.	47.84	▼
1.20 1.20 - 1.56	D 50 (25 for 95mm/50 for 265mm)	1.20		End of Borehole at 1.20m	46.94	

1 2 3 4 5 6 7 8

Remarks:

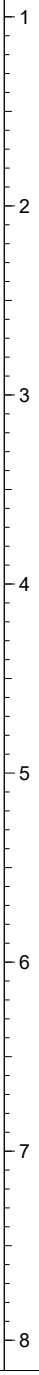
Perched groundwater encountered at 0.50mbgl.
Borehole terminated at 1.20mbgl due to SPT refusal.

Window Sample Borehole Log

Location Number: **WS101A**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356606.71 N417270.47
Equipment: Window Sample Rig: Competitor Dart	Level: 48.18m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)
		0.10		MADE GROUND: TARMACADAM	48.08
0.20 - 0.40	ES	0.20		MADE GROUND: CONCRETE	47.98
0.20 - 0.40	PID=2.4ppm			MADE GROUND: Brown gravelly silty SAND with occasional brick fragments, concrete, rare clinker and ash. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising brick fragments and sandstone.	
		0.50			47.68
				End of Borehole at 0.50m	



Remarks:

Borehole dry.

Borehole terminated at 0.50mbgl on very dense made ground.

Window Sample Borehole Log

Location Number: **WS101B**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356606.52 N417272.70
Equipment: Window Sample Rig: Competitor Dart	Level: 48.17m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)
0.10 - 0.50	ES	0.10		MADE GROUND: TARMACADAM	48.07
		0.50		MADE GROUND: Dark greyish brown gravelly SAND with occasional ash clinker, tarmacadam fragments, brick fragments and rare fabric. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular comprising sandstone.	47.67
				End of Borehole at 0.50m	

Remarks:

Borehole dry.
Borehole terminated at 0.50mbgl on very dense made ground.

Window Sample Borehole Log

Location Number: **WS102**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356631.62 N417268.35
Equipment: Window Sample Rig: Competitor Dart	Level: 48.65m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.00 - 0.10 0.00 - 0.10 0.10 - 1.20 0.10 - 1.20	ES PID=8.0ppm ES PID=19.5ppm	0.10		MADE GROUND: Black gravelly silty SAND with rare tarmacadam fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone. MADE GROUND: Dark grey sandy very clayey GRAVEL with occasional brick fragments, ash and clinker. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone.	48.55	
1.20 - 1.50 1.20 - 1.65 1.20 - 1.50 1.20 - 1.65 1.75 2.00 - 2.45 2.00 - 2.45 2.50 - 3.00 2.75 3.00 - 3.45 3.00 - 3.44	D ES PID=5.6ppm N=15 (3,3/3,4,4,4) PP=122.6kPa D N=27 (1,3/5,7,7,8) ES PP=147.2kPa D N=50 (7,8/50 for 285mm)	1.20		Firm to stiff consistency high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	47.45	
		3.45		End of Borehole at 3.45m	45.20	

Remarks:

Borehole dry.
Borehole terminated at 3.45mbgl due to SPT refusal.

Window Sample Borehole Log

Location Number: **WS103**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356623.50 N417314.57
Equipment: Window Sample Rig: Competitor Dart	Level: 48.79m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
				MADE GROUND: CONCRETE with 5mm rebar at 0.12mbgl.		
0.30 - 0.60 0.30 - 0.60	ES PID=1.1ppm	0.30		MADE GROUND: Light greyish brown gravelly sandy CLAY with rare brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone,siltstone and mudstone.	48.49	
0.60 - 1.00 0.60 - 1.00	ES PID=1.0ppm	0.60		Stiff consistency high to very high strength brown mottled grey slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone, siltstone and mudstone.	48.19	
1.20 - 1.65	N=15 (2,3/3,4,4,4)					
1.75	PP=196.2kPa					
2.00 - 2.45 2.00 - 2.45	D N=20 (2,2/4,4,5,7)					
2.50 - 3.00	D					
2.75	PP=196.2kPa					
3.00 - 3.45 3.00 - 3.45	D N=35 (4,5/7,8,10,10)					
3.75	PP=122.6kPa					
4.00 - 4.45 4.00 - 5.00 4.00 - 4.45	D D N=34 (5,5/7,8,9,10)					
4.75	PP=159.4kPa					
5.00 - 5.45 5.00 - 5.45	D N=32 (5,5/7,7,8,10)					
		5.45		End of Borehole at 5.45m	43.34	

1 2 3 4 5 6 7 8

Remarks:

Borehole dry.

Window Sample Borehole Log

Location Number: **WS104**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356589.38 N417290.25
Equipment: Window Sample Rig: Competitor Dart	Level: 47.50m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
				MADE GROUND: CONCRETE with 5mm rebar at 0.14mbgl.		
0.20 - 1.00 0.20 - 1.00	ES PID=2.3ppm	0.20		MADE GROUND: Soft consistency black gravelly slightly sandy CLAY with occasional ash, tarmacadam fragments, clinker, rare half brick and brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone, siltstone and mudstone.	47.30	
1.00 - 1.50 1.00 - 1.50 1.20 - 1.65 1.50 - 2.00 1.75 2.00 - 2.45 2.00 - 2.45 2.50 - 3.00 2.75 3.00 3.00 - 3.44	ES PID=2.6ppm N=14 (2,2/3,3,4,4) D PP=98.1kPa D N=29 (3,4/5,7,8,9) D PP=171.7kPa D N=50 (6,8/50 for 285mm)	1.00		Stiff consistency very high strength brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	46.50	
		3.45		End of Borehole at 3.45m	44.05	

1 2 3 4 5 6 7 8

Remarks:

Borehole dry.
Borehole terminated at 3.45mbgl due to SPT refusal.

Window Sample Borehole Log

Location Number: **WS105**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356571.71 N417301.38
Equipment: Window Sample Rig: Competitor Dart	Level: 46.57m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
				MADE GROUND: CONCRETE with 5mm rebar at 0.10 and 0.11mbgl.	46.42	
0.15 - 0.50 0.15 - 0.50	ES PID=1.3ppm	0.15		MADE GROUND: Soft black gravelly slightly sandy CLAY with frequent brick fragments, rare ash, tarmacadam fragments, clinker and half bricks. Sand is fine to coarse. Gravel is fine to coarse, subangular comprising brick fragments and mudstone.		
0.50 - 1.00 0.50 - 1.00	ES PID=1.4ppm	0.50		Soft consistency grey organic slightly gravelly sandy CLAY with frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone and mudstone.	46.07	
1.00 - 1.50 1.00 - 1.50 1.20 - 1.65 1.20 - 1.65 1.50 - 2.00	ES PID=1.0ppm D N=11 (1,2/2,3,3,3) D	1.00		Stiff consistency high to very high strength brown grey slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	45.57	
1.75	PP=171.7kPa					
2.00 - 2.45 2.00 - 2.45	D N=18 (3,3/4,4,5,5)					
2.50 - 3.00	D					
2.75	PP=147.2kPa					
3.00 - 3.45 3.00 - 3.80 3.00 - 3.45	D D N=22 (3,3/5,5,6,6)					
3.75	PP=98.1kPa					
3.80 - 4.00 4.00 - 4.45 4.00 - 4.45	D D N=15 (4,4/4,3,3,5)			3.90m to 4.00mbgl - Brown SAND. Sand is fine to coarse.		
4.75	PP=196.2kPa					
5.00 - 5.45 5.00 - 5.45	D N=34 (5,5/7,8,9,10)					
		5.45		End of Borehole at 5.45m	41.12	

1 2 3 4 5 6 7 8

Remarks:

Borehole dry.

Window Sample Borehole Log

Location Number: **WS106**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 05/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	
Equipment: Window Sample Rig: Competitor Dart	Level	Logged By: FP
Scale: 1:40	Page Number: Sheet 1 of 1	

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)
				MADE GROUND: CONCRETE with 5mm rebar at 0.14 and 0.15mbgl.	
0.30 - 0.60	ES	0.30		MADE GROUND: Soft consistency brown gravelly slightly sandy CLAY with occasional brick fragments. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	
0.30 - 0.60	PID=0.7ppm				
0.60 - 1.00	ES	0.60		Stiff very high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	
0.60 - 1.00	PID=1.0ppm				
1.20 - 1.65	D				
1.20 - 1.65	N=22 (4,4/4,5,6,7)				
1.50 - 2.00	D				
1.75	PP=171.7kPa				
2.00 - 2.45	D	2.00		No Recovery.	
2.00 - 2.45	N=38 (5,5/6,10,10,12)				
3.00	D	3.00		Stiff very high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	
3.00 - 3.42	N=50 (8,9/50 for 275mm)				
		3.45		End of Borehole at 3.45m	

Remarks:

Borehole dry.
Borehole terminated at 3.45mbgl due to SPT refusal.

Window Sample Borehole Log

Location Number: **WS107**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356608.73 N417284.00
Equipment: Window Sample Rig: Competitor Dart	Level: 48.12m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Water Strikes
		0.15		MADE GROUND: TARMACADAM.	47.97	
				MADE GROUND: CONCRETE		
0.30 - 0.70	ES	0.30		MADE GROUND: Light brown gravelly SAND with rare brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone and limestone.	47.82	
0.30 - 0.70	PID=1.8ppm					
0.70 - 1.00	ES	0.70		Stiff consistency high to very high strength brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone, coal and mudstone.	47.42	
0.70 - 1.00	PID=3.0ppm					
1.20 - 1.65	D					
1.20 - 1.65	N=16 (3,3/4,4,4,4)					
1.50 - 2.00	D					
1.75	PP=183.9kPa					
2.00 - 2.45	D					
2.00 - 2.45	N=22 (4,4/5,5,6,6)					
2.75	PP=220.7kPa					
3.00 - 3.45	D					
3.00 - 3.45	N=25 (5,5/6,6,6,7)					
3.50 - 4.00	D					
3.75	PP=171.7kPa					
4.00 - 4.45	D					
4.00 - 4.45	N=27 (5,6/6,7,7,7)					
4.75	PP=122.6kPa					
5.00	D					
5.00 - 5.40	N=76 (5,5/76 for 255mm)					
		5.40		End of Borehole at 5.40m	42.72	

1 2 3 4 5 6 7 8

Remarks:

Perched water encountered at 0.20mbgl.

Window Sample Borehole Log

Location Number: **WS108**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 06/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356578.35 N417324.89
Equipment: Window Sample Rig: Competitor Dart	Level: 47.76m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.05 - 0.40	ES	0.05		MADE GROUND: TARMACADAM	47.71	
0.05 - 0.40	PID=1.2ppm			MADE GROUND: Light brown gravelly clayey SAND with rare brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone.		
0.40 - 1.00	ES	0.40			47.36	
0.40 - 1.00	PID=1.2ppm			Firm to stiff consistency high to very high strength brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.		
0.75	PP=85.8kPa					
1.00	D					
1.20 - 1.65	N=15 (2,2/2,4,4,5)					
1.50 - 2.00	D					
1.75	PP=196.2kPa					
2.00	D					
2.00 - 2.45	N=22 (3,4/5,5,6,6)					
2.75	PP=196.2kPa					
3.00	D					
3.00 - 3.45	N=27 (4,5/6,7,7,7)					
3.75	PP=183.9kPa					
4.00 - 4.45	D					
4.00 - 4.45	N=23 (3,4/5,5,6,7)					
4.75	PP=98.1kPa					
5.00 - 5.45	D	5.00		Brown SAND. Sand is fine to coarse.	42.76	
5.00 - 5.45	N=29 (5,7/8,8,6,7)					
		5.45		End of Borehole at 5.45m	42.31	

1 2 3 4 5 6 7 8

Remarks:
Borehole dry.

Window Sample Borehole Log

Location Number: **WS109**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 06/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356561.97 N417335.56
Equipment: Window Sample Rig: Competitor Dart	Level: 47.83m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.10 - 0.80	ES	0.10		MADE GROUND: TARMACADAM	47.73	
0.10 - 0.80	PID=8.2ppm			MADE GROUND: Light brown gravelly clayey SAND with rare brick fragments. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone.		
0.80 - 1.50	ES	0.80		Firm to stiff consistency very high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	47.03	
0.80 - 1.50	PID=1.0ppm					
1.20 - 1.65	D					
1.20 - 1.65	N=13 (2,2/2,3,4,4)					
1.75	PP=171.7kPa					
2.00 - 2.40	D					
2.00 - 2.45	N=19 (2,3/3,5,5,6)					
2.50 - 3.00	D					
2.75	PP=220.7kPa					
3.00 - 3.45	D					
3.00 - 3.45	N=30 (3,4/5,7,8,10)					
3.50 - 4.00	D					
3.75	PP=183.9kPa					
4.00	D					
4.00 - 4.42	N=50 (7,8/50 for 275mm)					
		4.45		End of Borehole at 4.45m	43.38	

Remarks:

Borehole dry.
Borehole terminated at 4.45mbgl due to SPT refusal.

Window Sample Borehole Log

Location Number: **WS110**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 06/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356559.15 N417321.39
Equipment: Window Sample Rig: Competitor Dart	Level: 47.10m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.12 - 0.60 0.12 - 0.60	ES PID=0.8ppm	0.12		MADE GROUND: CONCRETE with 5mm rebar at 0.08 and 0.09mbgl.	46.98	
				MADE GROUND: Dark grey sandy very clayey GRAVEL with occasional brick fragments, rare ash and clinker. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone.		
0.60 - 1.00 0.60 - 1.00 0.75	ES PID=0.8ppm PP=98.1kPa	0.60		Firm to stiff consistency high to very high strength brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.	46.50	
1.20 - 1.65 1.20 - 1.65	D N=14 (2,2/3,3,4,4)					
1.50 - 2.00	D					
1.75	PP=171.7kPa					
2.00 - 2.45 2.00 - 2.45	D N=19 (3,3/4,4,5,6)					
2.75	PP=196.2kPa					
3.00 - 3.45 3.00 - 3.45	D N=35 (4,5/7,8,10,10)					
3.75	PP=171.7kPa					
4.00 - 4.45 4.00 - 5.00 4.00 - 4.45	D D N=34 (4,4/5,9,10,10)			4.40m to 4.70mbgl - Sand lenses encountered. Sand is fine to coarse.		
5.00 - 5.45 5.00 - 5.45	D N=33 (4,5/7,8,8,10)					
		5.45		End of Borehole at 5.45m	41.65	

Remarks:
Borehole dry.

Window Sample Borehole Log

Location Number: **WS111**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 06/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356608.32 N417340.33
Equipment: Window Sample Rig: Competitor Dart	Level: 49.53m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.00 - 0.40	ES			TOPSOIL: Brown gravelly very clayey SAND with frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone and mudstone.		
0.00 - 0.40	PID=0.7ppm					
0.40 - 1.00	ES	0.40			49.13	
0.40 - 1.00	PID=0.1ppm			Firm to stiff consistency Medium to very high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone and mudstone.		
0.75	PP=49.0kPa					
1.20 - 1.65	D					
1.20 - 1.65	N=5 (1,1/1,1,1,2)					
1.50 - 2.00	D					
1.75	PP=61.3kPa					
2.00 - 2.45	D					
2.00 - 2.45	N=18 (1,2/3,5,5,5)					
2.25	PP=159.4kPa					
3.00 - 3.45	D					
3.00 - 3.45	N=23 (2,3/5,5,6,7)					
3.75	PP=183.9kPa					
4.00 - 4.45	D					
4.00 - 4.45	N=32 (4,5/6,8,8,10)					
4.75	PP=147.2kPa					
5.00 - 5.45	D					
5.00 - 5.45	N=26 (4,5/5,6,7,8)					
		5.45		End of Borehole at 5.45m	44.08	

Remarks:
Borehole dry.

Window Sample Borehole Log

Location Number: **WS112**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 06/08/2024 - 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356640.27 N417334.22
Equipment: Window Sample Rig: Competitor Dart	Level: 49.99m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)
0.00 - 0.50 0.00 - 0.50	ES PID=0.5ppm			TOPSOIL: Brown gravelly very clayey SAND with frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone and mudstone.	
0.50 - 1.00 0.50 - 1.00	ES PID=0.5ppm	0.50		MADE GROUND: Soft consistency brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone, coal and mudstone.	49.49
1.20 - 1.65 1.20 - 1.65	D N=3 (1,0/1,1,0,1)				
1.50 - 2.00	D				
1.75	PP=49.0kPa				
2.00 - 2.45 2.00 - 2.45	D N=1 (1,0/0,0,0,1)				
2.75	PP=24.5kPa				
3.00 - 3.45 3.00 - 3.45	D N=12 (1,4/4,4,2,2)				
3.40 - 4.00	D	3.40		MADE GROUND: Red grey GRAVEL with brick fragments. Gravel is fine to coarse, subrounded comprising limestone.	46.59
		4.00		End of Borehole at 4.00m	45.99

Remarks:

Borehole dry.
Borehole terminated at 4.45mbgl due to potential service.

Window Sample Borehole Log

Location Number: **WS112A**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356641.02 N417334.93
Equipment: Window Sample Rig: Competitor Dart	Level: 50.02m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.00 - 0.50 0.00 - 0.50	ES PID=2.8ppm			TOPSOIL: Brown gravelly very clayey SAND with frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded comprising sandstone and mudstone.		
0.50 - 1.00 0.50 - 1.00 0.75	ES PID=2.4ppm PP=73.6kPa	0.50		MADE GROUND: Soft consistency brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone, coal and mudstone.	49.52	
1.20 - 1.65 1.20 - 1.65 1.50 - 2.00 1.75 2.00 - 2.45 2.00 - 2.45 2.75	D N=4 (1,1/1,1,1,1) D PP=24.5kPa D N=4 (1,1/1,1,1,1) PP=36.8kPa					
3.00 - 3.45 3.00 - 3.45	D N=13 (7,3/3,3,3,4)	3.00		MADE GROUND: Red grey GRAVEL with brick fragments. Gravel is fine to coarse, subrounded comprising limestone.	47.02	
		3.45		End of Borehole at 3.45m	46.56	

Remarks:

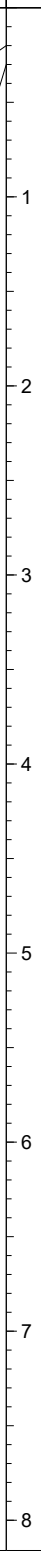
Borehole dry.
Borehole terminated at 3.45mbgl due to potential service.

Window Sample Borehole Log

Location Number: **WS113**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	
Equipment: Window Sample Rig: Competitor Dart	Level	Logged By: FP
Scale: 1:40	Page Number: Sheet 1 of 1	

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)
0.20 - 0.30 0.20 - 0.30	D PID=1.2ppm	0.20 0.30		MADE GROUND: CONCRETE uniformly thick into membrane. X2 10mm rebar at 15 and 16cmbgl. MADE GROUND: Grey GRAVEL with limestone. Gravel is fine to coarse, subrounded comprising limestone. End of Borehole at 0.30m	



Remarks:

Borehole dry.

Borehole terminated at 0.30mbgl on concrete.

Window Sample Borehole Log

Location Number: **WS113A**

Project Name: Ackhurst Road, Chorley	Client: Chorley Borough Council	Date: 07/08/2024
Project No. : LKC 23 1566	Contractor: D & I Drilling Ltd	Co-ords: E356616.85 N417296.59
Equipment: Window Sample Rig: Competitor Dart	Level: 48.39m AOD / Logged By: FP / Scale: 1:40	Page Number: Sheet 1 of 1

Depth (m)	Samples / Tests	Depth (m)	Legend	Stratum Description	Level (m)	Well
0.20 - 0.50	D	0.20		MADE GROUND: CONCRETE with 10mm rebar at 0.05 and 0.08mbgl.	48.19	
0.20 - 0.50	PID=2.5ppm			MADE GROUND: Grey GRAVEL with limestone and sandstone. Gravel is fine to coarse, subrounded comprising limestone and sandstone.		
0.50 - 1.00	ES	0.50		Stiff consistency very high strength brown gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded comprising sandstone, coal and mudstone.	47.89	
0.50 - 1.00	PID=1.8ppm					
1.20 - 1.65	D					
1.20 - 1.65	N=13 (1,3/3,3,3,4)					
1.50 - 2.00	D					
1.75	PP=183.9kPa					
2.00 - 2.45	D					
2.00 - 2.45	N=19 (3,4/4,5,5,5)					
2.50 - 3.00	D					
2.75	PP=183.9kPa					
3.00 - 3.45	D					
3.00 - 3.45	N=31 (5,6/6,7,8,10)					
3.75	PP=159.4kPa					
4.00	D					
4.00 - 4.42	N=50 (6,7/50 for 265mm)					
		4.42		End of Borehole at 4.42m	43.97	

Remarks:

Borehole dry.
Borehole terminated at 4.42mbgl due to SPT refusal.

Appendix C – Certificates of Analysis (Soil and Leaching Test)

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Eton Hill Road
Manchester
M26 2ZS

Normec DETS Limited
Unit 1
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ME17 2JN
t: 01622 850410

DETS Report No: 24-09201

Site Reference:	Ackhurst Road, Chorley
Project / Job Ref:	LKC 23 1566
Order No:	None Supplied
Sample Receipt Date:	12/08/2024
Sample Scheduled Date:	12/08/2024
Report Issue Number:	1
Reporting Date:	15/08/2024

Authorised by:

Steve Knight
Customer Support Manager

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

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

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4480

Soil Analysis Certificate						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24	06/08/24	06/08/24	06/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS109	WS110	WS110	WS111	WS112
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: None Supplied	**~Depth (m)**	0.10 - 0.80	0.12 - 0.60	0.60 - 1.00	0.00 - 0.40	0.00 - 0.50
Reporting Date: 15/08/2024	**DETS Sample No**	731790	731791	731792	731793	731794

Determinand	**Unit**	**RL**	**Accreditation**	(n)				
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected		Not Detected	Not Detected
pH	pH Units	N/a	**MCERTS**	7.4	7.1	7.4	7.4	7.3
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1			< 1
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1			< 1
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	236	146	60	< 10	< 10
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	0.24	0.15	0.06	< 0.01	< 0.01
Organic Matter (SOM)	%	< 0.1	**MCERTS**	1.1	16.2		3.7	2.3
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**			9		
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**			4.3		
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**			< 3		
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**			< 1.5		
Arsenic (As)	mg/kg	< 2	**MCERTS**	6	28		13	9
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	0.3		0.3	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	6	17		26	29
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	5	60		29	20
Lead (Pb)	mg/kg	< 3	**MCERTS**	4	48		67	28
W/S Magnesium	mg/l	< 0.1	NONE			3.6		
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1		< 1	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	8	28		22	22
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2		< 2	< 2
Vanadium (V)	mg/kg	< 1	**MCERTS**	7	33		33	
Zinc (Zn)	mg/kg	< 3	**MCERTS**	9	54		69	49
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24	06/08/24		
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied		
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101B	WS107	WS113A		
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES	ES		
~Order No: None Supplied	**~Depth (m)**	0.10 - 0.50	0.70 - 1.00	0.50 - 1.00		
Reporting Date: 15/08/2024	**DETS Sample No**	731795	731796	731800		

Determinand	**Unit**	**RL**	**Accreditation**	(n)				
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	**MCERTS**	8.9	7.5	7.6		
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1			
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	1530	76	49		
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	1.53	0.08	0.05		
Organic Matter (SOM)	%	< 0.1	**MCERTS**	4.8	1.6	1.1		
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**					
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**					
Arsenic (As)	mg/kg	< 2	**MCERTS**	7	7	8		
W/S Boron	mg/kg	< 1	NONE	1.2	< 1			
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	0.2	< 0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	**MCERTS**	12	31	28		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	**MCERTS**	25	11	18		
Lead (Pb)	mg/kg	< 3	**MCERTS**	47	12	9		
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	**MCERTS**	11	23	30		
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2		
Vanadium (V)	mg/kg	< 1	**MCERTS**	16	40	31		
Zinc (Zn)	mg/kg	< 3	**MCERTS**	99	38	40		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24	06/08/24	06/08/24	06/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS109	WS110	WS111	WS112	WS101B
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: None Supplied	**~Depth (m)**	0.10 - 0.80	0.12 - 0.60	0.00 - 0.40	0.00 - 0.50	0.10 - 0.50
Reporting Date: 15/08/2024	**DETS Sample No**	731790	731791	731793	731794	731795

Determinand	Unit	RL	Accreditation	(n)				(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.35
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.27
Phenanthrene	mg/kg	< 0.1	MCERTS	0.17	0.28	0.81	0.24	1.87
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.18	< 0.1	0.45
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	1.19	0.45	4.32
Pyrene	mg/kg	< 0.1	MCERTS	0.17	< 0.1	1.09	0.44	3.86
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.51	0.23	2.22
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.57	0.24	1.81
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.52	0.22	2.83
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.12	< 0.1	1.03
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.46	0.21	3
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.24	< 0.1	1.73
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.31
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.21	0.12	1.66
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	5.9	2.1	25.9

~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS107	WS113A			
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES			
~Order No: None Supplied	**~Depth (m)**	0.70 - 1.00	0.50 - 1.00			
Reporting Date: 15/08/2024	**DETS Sample No**	731796	731800			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6			

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24	06/08/24	06/08/24	06/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS109	WS110	WS112	WS101B	WS107
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: None Supplied	**~Depth (m)**	0.10 - 0.80	0.12 - 0.60	0.00 - 0.50	0.10 - 0.50	0.70 - 1.00
Reporting Date: 15/08/2024	**DETS Sample No**	731790	731791	731794	731795	731796

Determinand	Unit	RL	Accreditation	(n)			(n)	
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	11	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	46	< 3	< 3	15	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	37	< 3	< 3	37	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	87	< 10	< 10	397	< 10
Aliphatic >C34 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10	< 10	182	< 10
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	180	< 21	< 21	631	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	3	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	50	3	< 2	8	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	77	8	< 3	60	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	181	< 10	< 10	388	< 10
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	< 10	88	< 10
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	310	< 21	< 21	544	< 21
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE	491	< 42	< 42	1175	< 42

~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24	06/08/24	06/08/24	06/08/24	06/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS109	WS110	WS112	WS101B	WS107
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: None Supplied	**~Depth (m)**	0.10 - 0.80	0.12 - 0.60	0.00 - 0.50	0.10 - 0.50	0.70 - 1.00
Reporting Date: 15/08/2024	**DETS Sample No**	731790	731791	731794	731795	731796

Determinand	**Unit**	**RL**	**Accreditation**					
Benzene : HS_1D_MS	ug/kg	< 2	**MCERTS**	(n) < 2	< 2	< 2	(n) < 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	**MCERTS**	< 2	< 2	< 2	2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	**MCERTS**	< 5	< 5	< 5	< 5	< 5

~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24				
LK Consult Limited	**~Time Sampled**	None Supplied				
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS112				
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES				
~Order No: None Supplied	**~Depth (m)**	0.00 - 0.50				
Reporting Date: 15/08/2024	**DETS Sample No**	731794				

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5				
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5				
Chloromethane	ug/kg	< 10	MCERTS	< 10				
Chloroethane	ug/kg	< 5	MCERTS	< 5				
Bromomethane	ug/kg	< 10	MCERTS	< 10				
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
MTBE	ug/kg	< 5	MCERTS	< 5				
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Chloroform	ug/kg	< 5	MCERTS	< 5				
Bromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10				
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5				
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
Benzene	ug/kg	< 2	MCERTS	< 2				
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Trichloroethene	ug/kg	< 5	MCERTS	< 5				
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5				
Dibromomethane	ug/kg	< 5	MCERTS	< 5				
TAME	ug/kg	< 5	MCERTS	< 5				
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
Toluene	ug/kg	< 5	MCERTS	< 5				
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10				
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5				
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5				
Chlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2				
m,p-Xylene	ug/kg	< 2	MCERTS	< 2				
o-Xylene	ug/kg	< 2	MCERTS	< 2				
Styrene	ug/kg	< 5	MCERTS	< 5				
Bromoform	ug/kg	< 10	MCERTS	< 10				
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5				
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5				
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5				
Bromobenzene	ug/kg	< 5	MCERTS	< 5				
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5				
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10				
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5				

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24				
LK Consult Limited	**~Time Sampled**	None Supplied				
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS112				
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES				
~Order No: None Supplied	**~Depth (m)**	0.00 - 0.50				
Reporting Date: 15/08/2024	**DETS Sample No**	731794				

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1				
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1				
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1				
0-Cresol	mg/kg	< 0.1	NONE	< 0.1				
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1				
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1				
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1				
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1				
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15				
Isophorone	mg/kg	< 0.1	NONE	< 0.1				
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1				
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15				
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15				
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1				
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1				
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1				
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
4-Chloroanaline	mg/kg	< 0.15	NONE	< 0.15				
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1				
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1				
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1				
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1				
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1				
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1				
Azobenzene	mg/kg	< 0.1	NONE	< 0.1				
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1				
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1				
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15				
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 24-09201	**~Date Sampled**	06/08/24				
LK Consult Limited	**~Time Sampled**	None Supplied				
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS112				
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	ES				
~Order No: None Supplied	**~Depth (m)**	0.00 - 0.50				
Reporting Date: 15/08/2024	**DETS Sample No**	731794				

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

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 24-09201	
LK Consult Limited	
~Site Reference: Ackhurst Road, Chorley	
~Project / Job Ref: LKC 23 1566	
~Order No: None Supplied	
Reporting Date: 15/08/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
731790	WS109	ES	0.10 - 0.80	7.4	Brown sandy gravel with stones and concrete
731791	WS110	ES	0.12 - 0.60	12.7	Brown loamy sand with stones and brick
731792	WS110	ES	0.60 - 1.00	15.6	Light brown clay
731793	WS111	ES	0.00 - 0.40	15.8	Brown sandy clay with vegetation
731794	WS112	ES	0.00 - 0.50	17.7	Light brown sandy clay with vegetation
731795	WS101B	ES	0.10 - 0.50	5.8	Brown sandy gravel with stones and concrete
731796	WS107	ES	0.70 - 1.00	19.3	Light brown clay
731800	WS113A	ES	0.50 - 1.00	15.9	Light brown clay

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-09201

LK Consult Limited

~Site Reference: Ackhurst Road, Chorley

~Project / Job Ref: LKC 23 1566

~Order No: None Supplied

Reporting Date: 15/08/2024

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

D Dried
AR As Received
~Sample details provided by customer and can affect the validity of results

Normec DETS Limited
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List of HWOL Acronyms and Operators
DETS Report No: 24-09201
LK Consult Limited
~Site Reference: Ackhurst Road, Chorley
~Project / Job Ref: LKC 23 1566
~Order No: None Supplied
Reporting Date: 15/08/2024

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

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH - Aliphatic >C34 - C44 - raw data - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C34 - C44 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

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DETS Report No: 24-09020

Site Reference:	Ackhurst Road, Chorley
Project / Job Ref:	LKC231566
Order No:	POR000216
Sample Receipt Date:	07/08/2024
Sample Scheduled Date:	07/08/2024
Report Issue Number:	1
Reporting Date:	13/08/2024

Authorised by:

Steve Knight
Customer Support Manager

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

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4480

Soil Analysis Certificate						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101	WS102	WS102	WS102	WS103
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	0.30 - 1.20	0.10 - 1.20	1.20 - 1.50	1.20 - 1.50	0.30 - 0.60
Reporting Date: 13/08/2024	**DETS Sample No**	731161	731162	731163	731164	731165

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Detected			Not Detected
Sample Matrix (S)	Material Type	N/a	NONE		Chrysotile present as fibre bundles			
Asbestos Type (S)	PLM Result	N/a	**ISO17025**		Chrysotile			
Asbestos Quantification (S)	%	< 0.001	**ISO17025**		< 0.001			
pH	pH Units	N/a	**MCERTS**	8.9	8.5			7.9
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1			
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	< 10	128			23
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	< 0.01	0.13			0.02
Organic Matter (SOM)	%	< 0.1	**MCERTS**	2.9	3.7	1.4		1.5
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**					
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**					
Arsenic (As)	mg/kg	< 2	**MCERTS**	6	7			7
W/S Boron	mg/kg	< 1	NONE	2.5	< 1			
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	< 0.2	< 0.2			< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	15	26			19
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	23	23			8
Lead (Pb)	mg/kg	< 3	**MCERTS**	35	52			9
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1	< 1			< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	9	17			14
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 2	< 2			< 2
Vanadium (V)	mg/kg	< 1	**MCERTS**	12	21			29
Zinc (Zn)	mg/kg	< 3	**MCERTS**	287	190			28
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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4480

Soil Analysis Certificate						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS103	WS104	WS104	WS105	WS105
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	0.60 - 1.00	0.20 - 1.00	1.00 - 1.50	0.20 - 1.00	0.50 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731166	731167	731168	731169	731170

Determinand	Unit	RL	Accreditation				(n)	
Asbestos Screen (S)	N/a	N/a	ISO17025		Not Detected		Not Detected	
Sample Matrix (S)	Material Type	N/a	NONE					
Asbestos Type (S)	PLM Result	N/a	ISO17025					
Asbestos Quantification (S)	%	< 0.001	ISO17025					
pH	pH Units	N/a	MCERTS	7.4	7.4		7.7	7.0
Total Cyanide	mg/kg	< 1	NONE		< 1			
Free Cyanide	mg/kg	< 1	NONE		< 1			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	28	117		85	14
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.03	0.12		0.09	0.01
Organic Matter (SOM)	%	< 0.1	MCERTS		7.8		12.7	
W/S Chloride (2:1)	mg/kg	< 1	MCERTS	14				50
W/S Chloride (2:1)	mg/l	< 0.5	MCERTS	6.8				25.1
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	MCERTS	< 3				< 3
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	MCERTS	< 1.5				< 1.5
Arsenic (As)	mg/kg	< 2	MCERTS		13		32	
W/S Boron	mg/kg	< 1	NONE		1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2		< 0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS		20		15	
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2		< 2	
Copper (Cu)	mg/kg	< 4	MCERTS		28		71	
Lead (Pb)	mg/kg	< 3	MCERTS		60		44	
W/S Magnesium	mg/l	< 0.1	NONE	4.5				4.2
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1		< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS		17		21	
Selenium (Se)	mg/kg	< 2	MCERTS		< 2		< 2	
Vanadium (V)	mg/kg	< 1	MCERTS		28		30	
Zinc (Zn)	mg/kg	< 3	MCERTS		165		33	
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS105	WS106	WS106	WS108	WS108
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	1.00 - 1.50	0.30 - 0.60	0.60 - 1.00	0.05 - 0.40	0.40 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731171	731172	731173	731174	731175

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**		Not Detected		Not Detected	
Sample Matrix (S)	Material Type	N/a	NONE					
Asbestos Type (S)	PLM Result	N/a	**ISO17025**					
Asbestos Quantification (S)	%	< 0.001	**ISO17025**					
pH	pH Units	N/a	**MCERTS**		8.0		7.8	
Total Cyanide	mg/kg	< 1	NONE					
Free Cyanide	mg/kg	< 1	NONE					
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**		692		28	
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**		0.69		0.03	
Organic Matter (SOM)	%	< 0.1	**MCERTS**		3.4		1.4	
W/S Chloride (2:1)	mg/kg	< 1	**MCERTS**					
W/S Chloride (2:1)	mg/l	< 0.5	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/kg	< 3	**MCERTS**					
Water Soluble Nitrate (2:1) as NO_3	mg/l	< 1.5	**MCERTS**					
Arsenic (As)	mg/kg	< 2	**MCERTS**		16		6	
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**		< 0.2		< 0.2	
Chromium (Cr)	mg/kg	< 2	**MCERTS**		32		9	
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2		< 2	
Copper (Cu)	mg/kg	< 4	**MCERTS**		25		7	
Lead (Pb)	mg/kg	< 3	**MCERTS**		15		6	
W/S Magnesium	mg/l	< 0.1	NONE					
Mercury (Hg)	mg/kg	< 1	**MCERTS**		< 1		< 1	
Nickel (Ni)	mg/kg	< 3	**MCERTS**		42		9	
Selenium (Se)	mg/kg	< 2	**MCERTS**		< 2		< 2	
Vanadium (V)	mg/kg	< 1	**MCERTS**		33		10	
Zinc (Zn)	mg/kg	< 3	**MCERTS**		46		19	
Total Phenols (monohydric)	mg/kg	< 2	NONE					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101	WS102	WS103	WS104	WS105
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	0.30 - 1.20	0.10 - 1.20	0.30 - 0.60	0.20 - 1.00	0.20 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731161	731162	731165	731167	731169

Determinand	Unit	RL	Accreditation					(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.14
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.36	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.32	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.36	< 0.1	< 0.1	0.67	0.31
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.32	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.50	0.23	< 0.1	2.30	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.44	0.24	< 0.1	1.93	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.17	0.13	< 0.1	0.80	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.20	0.14	< 0.1	0.71	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.13	0.15	< 0.1	0.84	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.25	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.13	0.15	< 0.1	0.87	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	< 0.1	0.62	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.15	< 0.1	0.62	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	1.9	< 1.6	< 1.6	10.6	< 1.6

~Sample details provided by customer and can affect the validity of results
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS106	WS108			
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES			
~Order No: POR000216	**~Depth (m)**	0.30 - 0.60	0.05 - 0.40			
Reporting Date: 13/08/2024	**DETS Sample No**	731172	731174			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6			

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101	WS102	WS102	WS102	WS104
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	0.30 - 1.20	0.10 - 1.20	1.20 - 1.50	1.20 - 1.50	0.20 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731161	731162	731163	731164	731167

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		7
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		32
Aliphatic >C34 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE	< 10	< 10	< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE			< 21		
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21		39
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		5
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		14
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		68
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE	< 10	< 10	< 10		19
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE			< 21		
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21		106
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE	< 42	< 42	< 42		145
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE			< 42		

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS104	WS105	WS106	WS108	
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	
~Order No: POR000216	**~Depth (m)**	1.00 - 1.50	1.00 - 1.50	0.60 - 1.00	0.40 - 1.00	
Reporting Date: 13/08/2024	**DETS Sample No**	731168	731171	731173	731175	

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE					
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE					
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	**MCERTS**					
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	**MCERTS**					
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	**MCERTS**					
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	**MCERTS**					
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	**MCERTS**					
Aliphatic >C34 - C44 : EH_CU_1D_AL	mg/kg	< 10	NONE					
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE					
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE					
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE					
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE					
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	**MCERTS**					
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	**MCERTS**					
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	**MCERTS**					
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	**MCERTS**					
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	**MCERTS**					
Aromatic >C35 - C44 : EH_CU_1D_AR	mg/kg	< 10	NONE					
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE					
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE					
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE					
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE					

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101	WS102	WS102	WS104	
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	
~Order No: POR000216	**~Depth (m)**	0.30 - 1.20	0.10 - 1.20	1.20 - 1.50	0.20 - 1.00	
Reporting Date: 13/08/2024	**DETS Sample No**	731161	731162	731163	731167	

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	3	< 2	< 2	< 2	
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	3	< 2	4	< 2	
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	

~Sample details provided by customer and can affect the validity of results

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UKAS TESTING
4480

Leachate Analysis Certificate						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS101	WS102	WS102	WS102	WS104
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	0.30 - 1.20	0.10 - 1.20	1.20 - 1.50	1.20 - 1.50	0.20 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731161	731162	731163	731164	731167

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025			7.9	
Total Cyanide	ug/l	< 5	ISO17025			< 5	
Free Cyanide	ug/l	< 5	NONE			< 5	
Sulphate as SO_4	mg/l	< 1	ISO17025			4	
Dissolved Organic Carbon (DOC)	mg/l	< 1.0	ISO17025			5	
Hardness - Total	mgCaCO3/l	< 0.25	NONE			30.60	
Arsenic	ug/l	< 0.2	ISO17025			0.2	
Boron	ug/l	< 1	ISO17025			17	
Cadmium	ug/l	< 0.2	ISO17025			< 0.2	
Chromium	ug/l	< 0.2	ISO17025			< 0.2	
Chromium (hexavalent)	ug/l	< 20	NONE			< 20	
Copper	ug/l	< 0.2	ISO17025			4.2	
Lead	ug/l	< 0.2	ISO17025			< 0.2	
Mercury	ug/l	< 0.04	ISO17025			< 0.04	
Nickel	ug/l	< 0.2	ISO17025			0.3	
Selenium	ug/l	< 0.2	ISO17025			0.4	
Vanadium	ug/l	< 0.2	ISO17025			0.3	
Zinc	ug/l	< 1	ISO17025			17	
Calcium	mg/l	< 0.1	ISO17025			8.9	
Total Phenols (monohydric)	ug/l	< 10	ISO17025			< 10	

Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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UKAS TESTING
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Leachate Analysis Certificate						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS104	WS105	WS106	WS108	
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	
~Order No: POR000216	**~Depth (m)**	1.00 - 1.50	1.00 - 1.50	0.60 - 1.00	0.40 - 1.00	
Reporting Date: 13/08/2024	**DETS Sample No**	731168	731171	731173	731175	

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	ISO17025	7.7	7.3	7.1	7.1	
Total Cyanide	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Free Cyanide	ug/l	< 5	NONE	< 5	< 5	< 5	< 5	
Sulphate as SO_4	mg/l	< 1	ISO17025	3	1	31	1	
Dissolved Organic Carbon (DOC)	mg/l	< 1.0	ISO17025	20.5	6.7	4.8	8.3	
Hardness - Total	mgCaCO3/l	< 0.25	NONE	15.30	21.90	50	20	
Arsenic	ug/l	< 0.2	ISO17025	3.8	0.2	< 0.2	2.8	
Boron	ug/l	< 1	ISO17025	38	11	15	19	
Cadmium	ug/l	< 0.2	ISO17025	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium	ug/l	< 0.2	ISO17025	1.5	0.3	< 0.2	2.0	
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20	< 20	< 20	
Copper	ug/l	< 0.2	ISO17025	14.9	7.7	4.9	8.5	
Lead	ug/l	< 0.2	ISO17025	0.7	0.3	< 0.2	1.1	
Mercury	ug/l	< 0.04	ISO17025	< 0.04	< 0.04	< 0.04	< 0.04	
Nickel	ug/l	< 0.2	ISO17025	1.0	0.7	0.3	0.7	
Selenium	ug/l	< 0.2	ISO17025	0.5	0.3	0.2	0.2	
Vanadium	ug/l	< 0.2	ISO17025	4.0	0.6	< 0.2	4.5	
Zinc	ug/l	< 1	ISO17025	42	25	22	30	
Calcium	mg/l	< 0.1	ISO17025	5	5.9	13.9	6.2	
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	

Subcontracted analysis (S)
~Sample details provided by customer and can affect the validity of results

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Leachate Analysis Certificate - Speciated PAH						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104	WS105	WS106	WS108
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	1.20 - 1.50	1.00 - 1.50	1.00 - 1.50	0.60 - 1.00	0.40 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731164	731168	731171	731173	731175

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104	WS105	WS106	WS108
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	1.20 - 1.50	1.00 - 1.50	1.00 - 1.50	0.60 - 1.00	0.40 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731164	731168	731171	731173	731175

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10

~Sample details provided by customer and can affect the validity of results

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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-09020	**~Date Sampled**	05/08/24	05/08/24	05/08/24	05/08/24	05/08/24
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104	WS105	WS106	WS108
~Project / Job Ref: LKC231566	**~Additional Refs**	ES	ES	ES	ES	ES
~Order No: POR000216	**~Depth (m)**	1.20 - 1.50	1.00 - 1.50	1.00 - 1.50	0.60 - 1.00	0.40 - 1.00
Reporting Date: 13/08/2024	**DETS Sample No**	731164	731168	731171	731173	731175

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	ug/l	< 1	**ISO17025**	< 1	< 1	< 1	< 1	< 1
Toluene : HS_1D_MS	ug/l	< 5	**ISO17025**	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/l	< 5	**ISO17025**	< 5	< 5	< 5	< 5	< 5
p & m-xylene : HS_1D_MS	ug/l	< 10	**ISO17025**	< 10	< 10	< 10	< 10	< 10
o-xylene : HS_1D_MS	ug/l	< 5	**ISO17025**	< 5	< 5	< 5	< 5	< 5
MTBE : HS_1D_MS	ug/l	< 10	**ISO17025**	< 10	< 10	< 10	< 10	< 10

~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 24-09020	
LK Consult Limited	
~Site Reference: Ackhurst Road, Chorley	
~Project / Job Ref: LKC231566	
~Order No: POR000216	
Reporting Date: 13/08/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
731161	WS101	ES	0.30 - 1.20	12.2	Brown sandy clay with stones and crystalline material
731162	WS102	ES	0.10 - 1.20	20.7	Brown sandy clay
731163	WS102	ES	1.20 - 1.50	17	Brown clay
731165	WS103	ES	0.30 - 0.60	13.9	Brown sandy clay with stones
731166	WS103	ES	0.60 - 1.00	19.2	Brown clay
731167	WS104	ES	0.20 - 1.00	21.4	Brown sandy clay
731169	WS105	ES	0.20 - 1.00	13.3	Brown clayey gravel with stones
731170	WS105	ES	0.50 - 1.00	22.3	Brown sandy clay with vegetation
731172	WS106	ES	0.30 - 0.60	18.6	Brown sandy clay with stones and brick
731174	WS108	ES	0.05 - 0.40	9.8	Brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
~Sample details provided by customer and can affect the validity of results

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-09020
LK Consult Limited
~Site Reference: Ackhurst Road, Chorley
~Project / Job Ref: LKC231566
~Order No: POR000216
Reporting Date: 13/08/2024

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

D Dried
AR As Received

~Sample details provided by customer and can affect the validity of results

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Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 24-09020
LK Consult Limited
~Site Reference: Ackhurst Road, Chorley
~Project / Job Ref: LKC231566
~Order No: POR000216
Reporting Date: 13/08/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	U	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (COD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 – C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichlorometha	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered
~Sample details provided by customer and can affect the validity of results

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List of HWOL Acronyms and Operators
DETS Report No: 24-09020
LK Consult Limited
~Site Reference: Ackhurst Road, Chorley
~Project / Job Ref: LKC231566
~Order No: POR000216
Reporting Date: 13/08/2024

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

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH - Aliphatic >C34 - C44 - raw data - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C34 - C44 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
TPH CWG - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Appendix D – Certificates of Analysis (Geotechnical)

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client LK Consult Ltd

Address Unit 29 Eton Business Park
Eton Hill Road
Radcliffe
Greater Manchester
M26 2ZS

Contract LKC 23 1566 -
Ackhurst Road, Chorley

Job Number MRN 24076/87
Date of Issue 17 September 2024

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

UKAS TESTING 1580

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

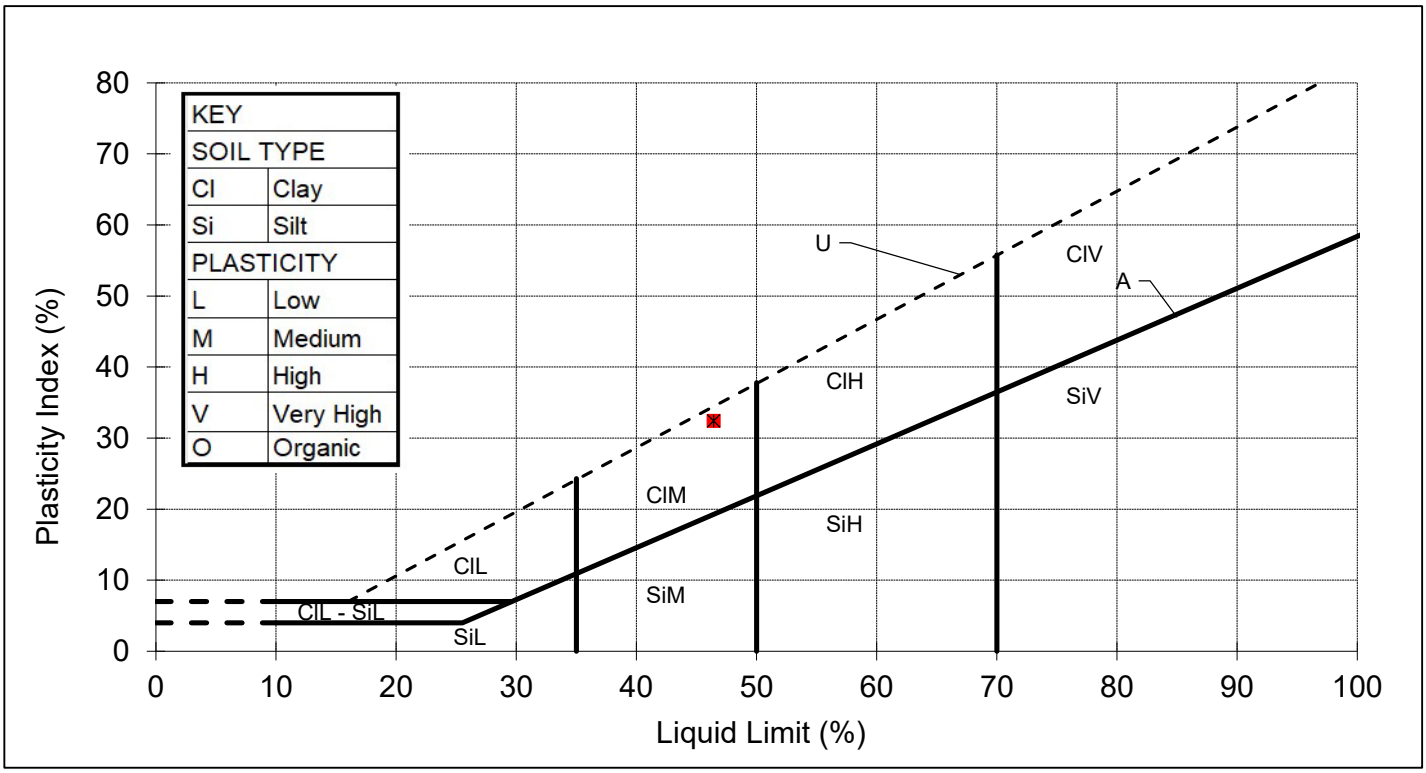
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS102: 1.20-1.65	DATE SAMPLED	Not advised
SAMPLE No.	532301	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	15.9	42.9	1.076	
Determination 2 (avg)	16.1	43.4		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.9	46	14	32	99



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 17-Sep-24

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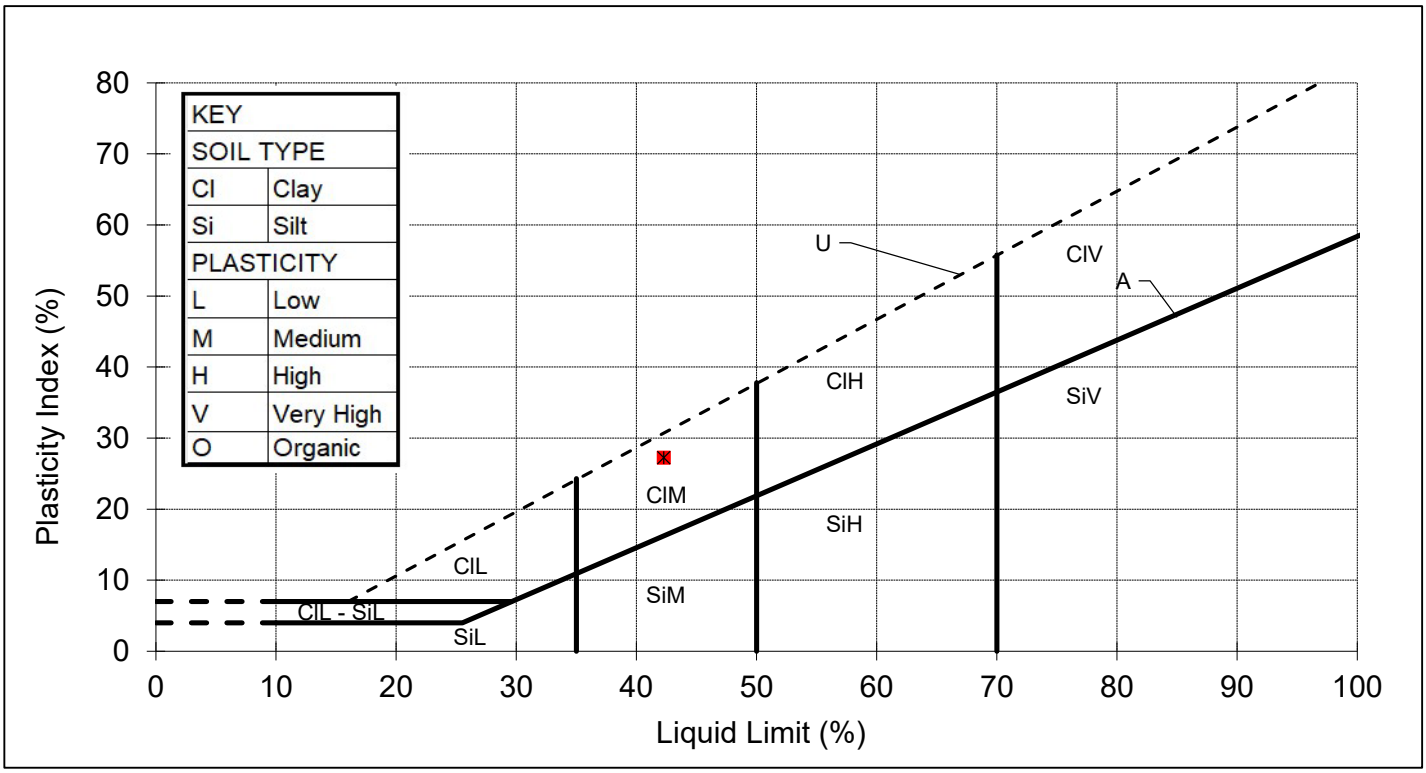
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS103: 2.5-3.0	DATE SAMPLED	Not advised
SAMPLE No.	532302	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.5	41.1	1.028	
Determination 2 (avg)	18.4	41.1		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.5	42	15	27	97



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

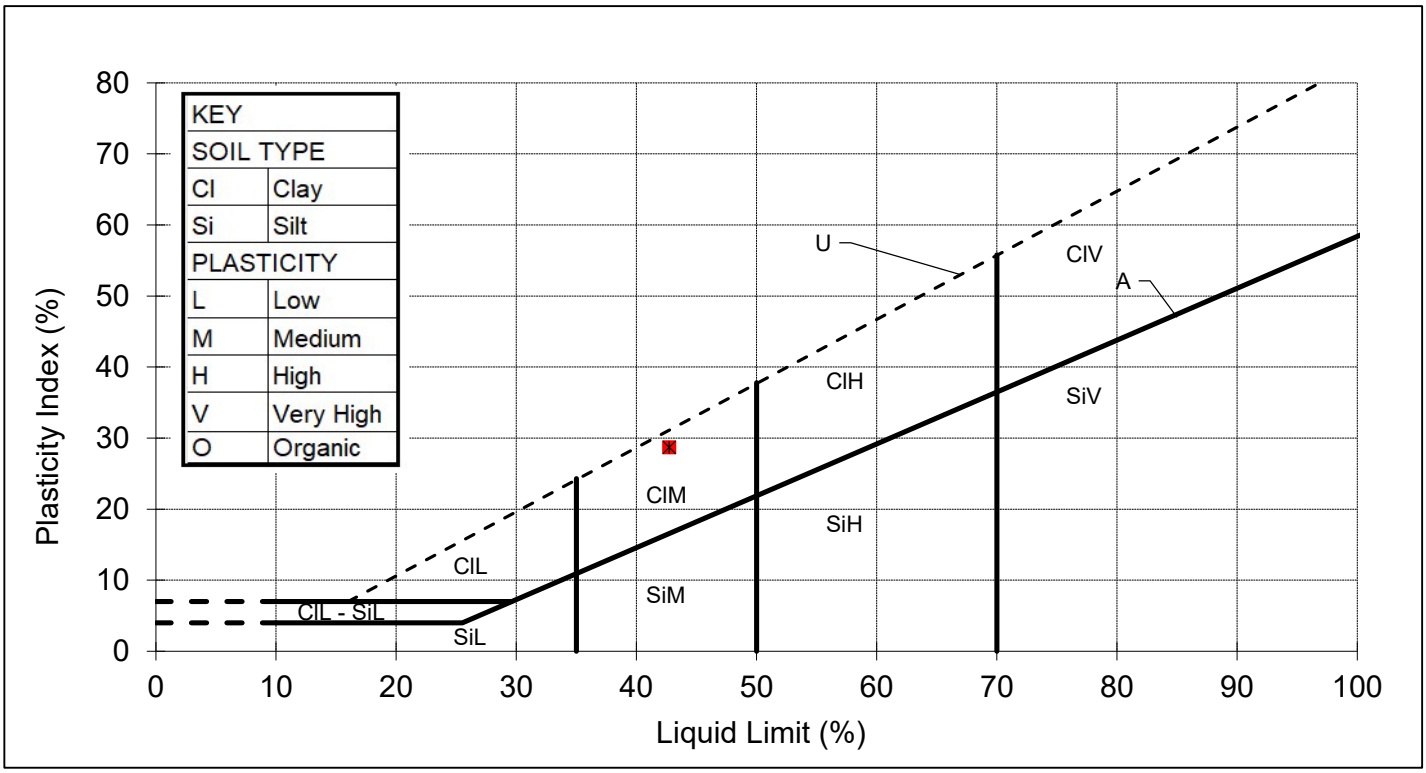
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS103: 5.0-5.45	DATE SAMPLED	Not advised
SAMPLE No.	532303	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.5	42.4	1.011	
Determination 2 (avg)	19.4	42.1		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.4	43	14	29	96



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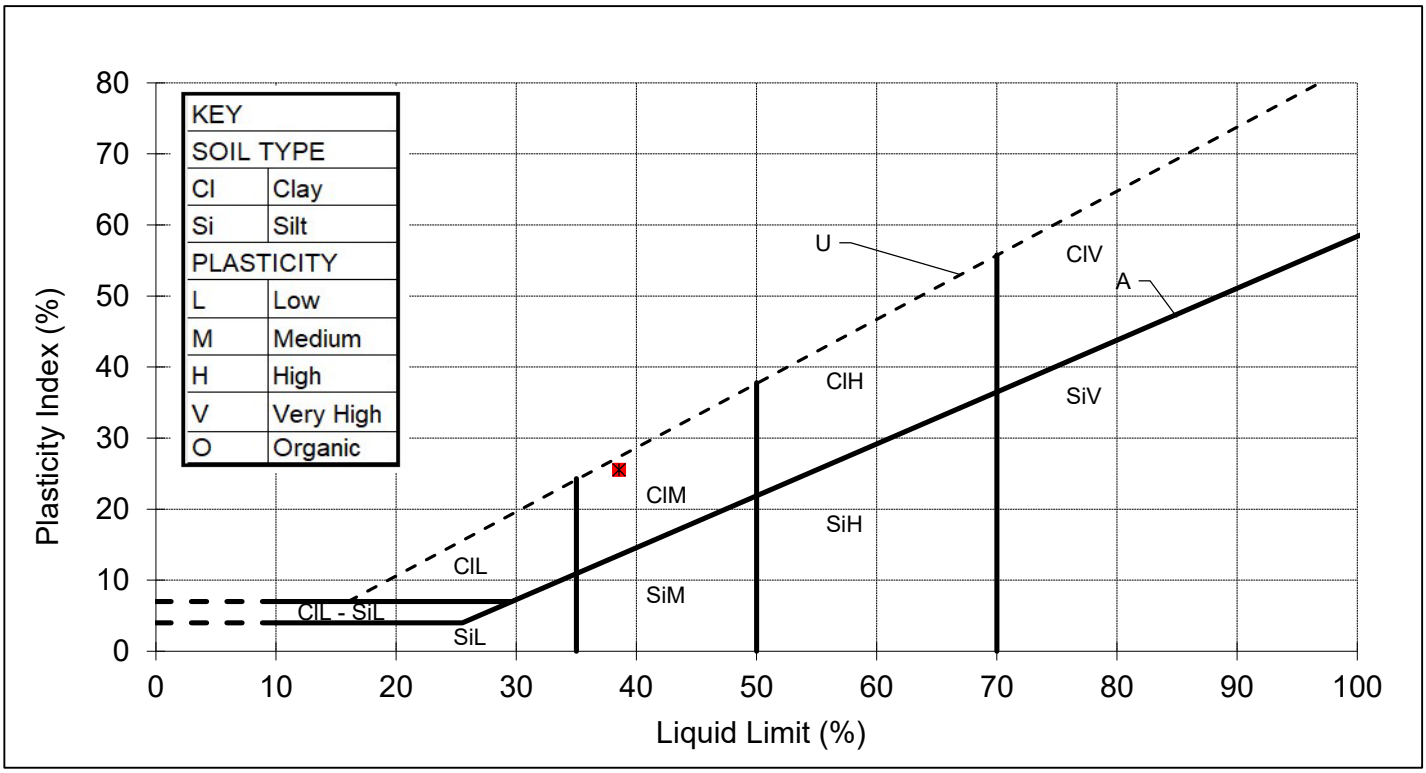
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS104: 3.00	DATE SAMPLED	Not advised
SAMPLE No.	532304	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	38.6	1.000	
Determination 2 (avg)	20.0	38.5		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.1	39	13	26	98



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

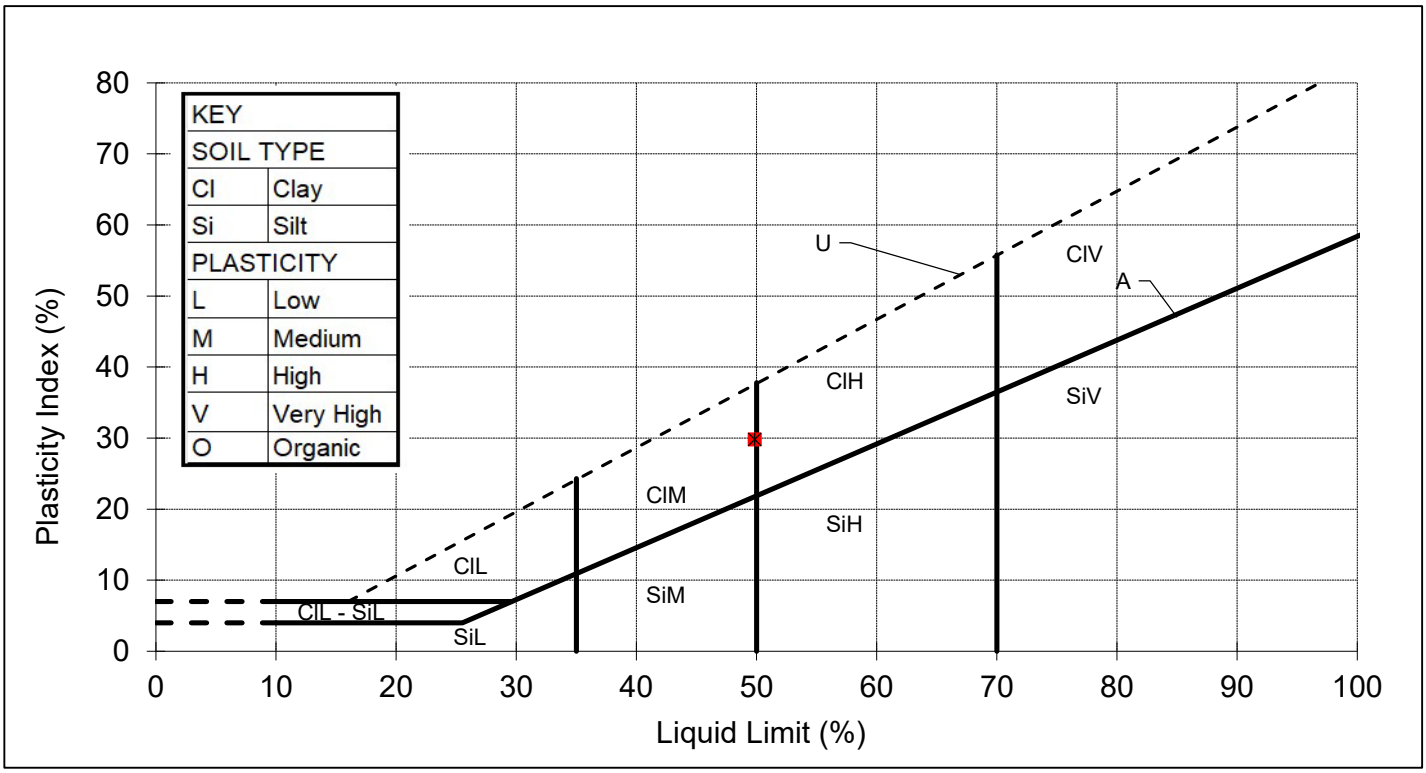
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS105: 0.5-1.00	DATE SAMPLED	Not advised
SAMPLE No.	532305	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly slightly organic CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	15.9	47.2	1.060	
Determination 2 (avg)	15.7	46.8		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
32.5	50	20	30	99



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

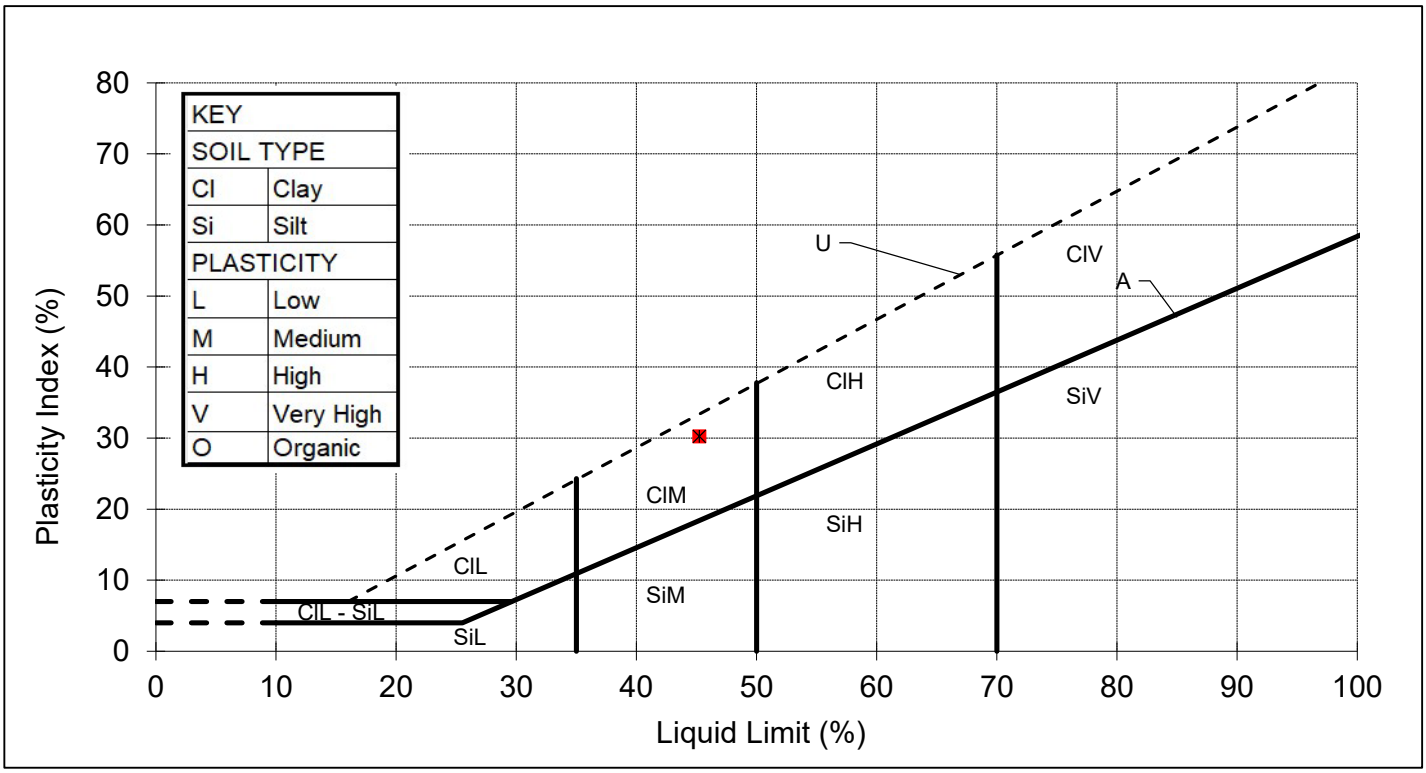
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS105: 2.5-3.00	DATE SAMPLED	Not advised
SAMPLE No.	532306	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	44.1	1.027	
Determination 2 (avg)	18.4	44.0		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20.0	45	15	30	96



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

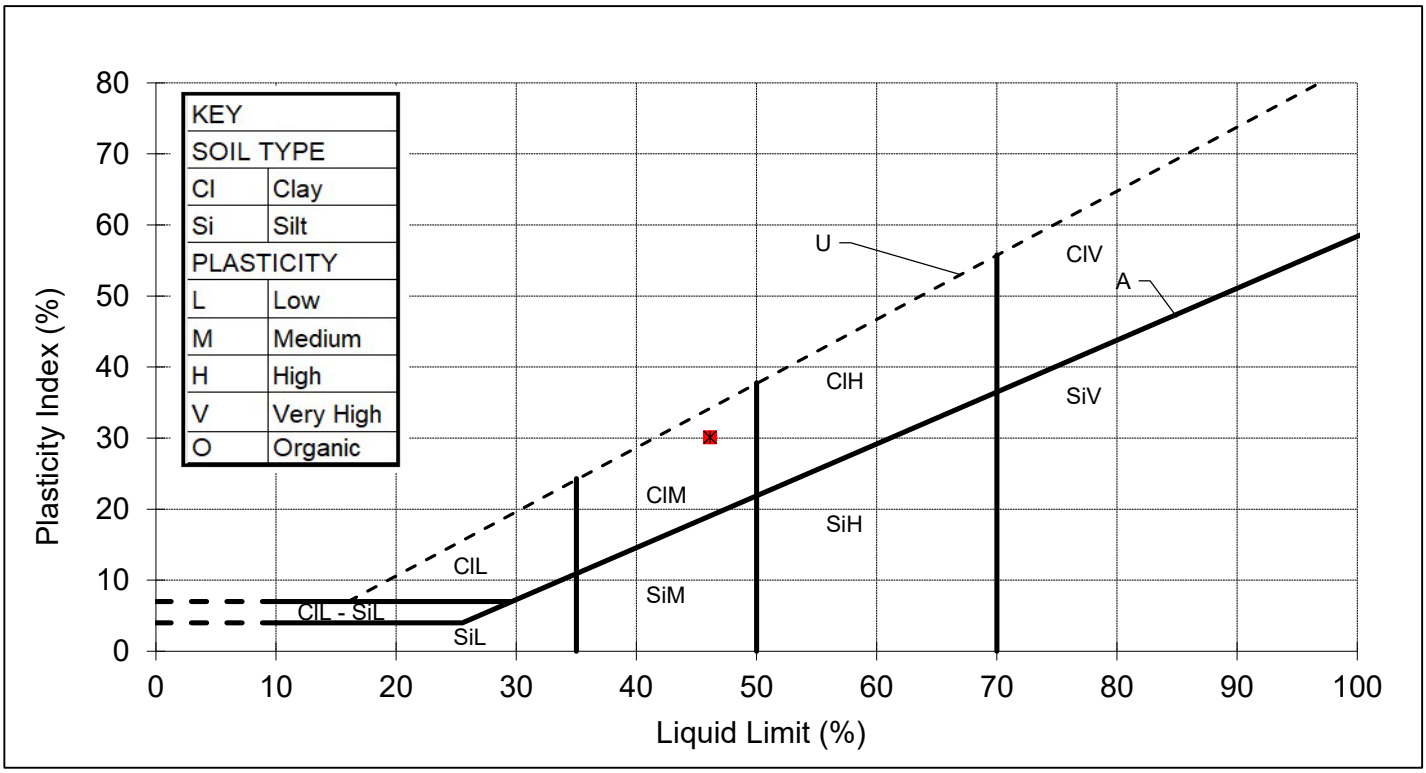
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS106: 1.2-1.65	DATE SAMPLED	Not advised
SAMPLE No.	532307	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.0	44.4	1.038	
Determination 2 (avg)	18.1	44.5		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.9	46	16	30	97



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

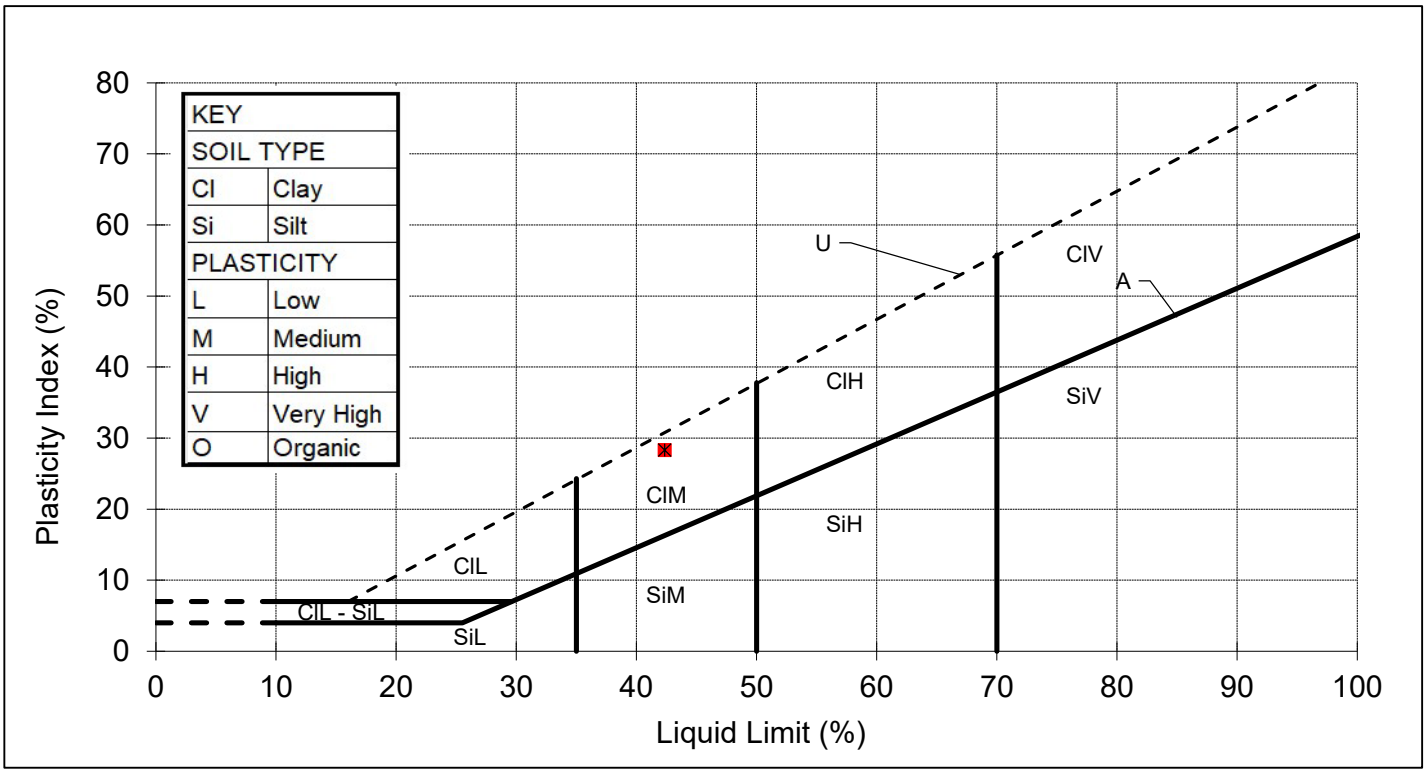
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS107: 4.0-4.45	DATE SAMPLED	Not advised
SAMPLE No.	532308	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.8	42.2	1.006	
Determination 2 (avg)	19.6	42.0		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
17.6	42	14	28	93



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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

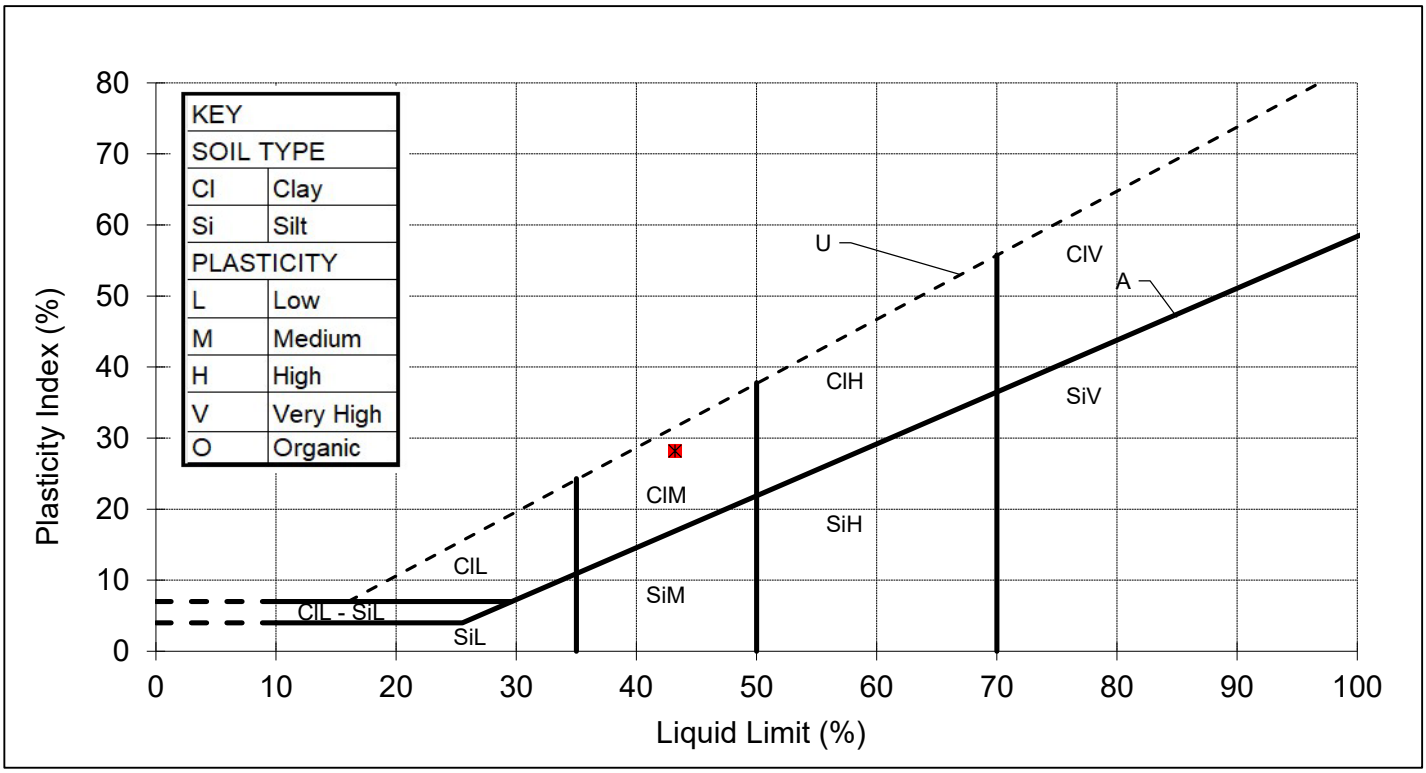
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS108: 1.5-2.0	DATE SAMPLED	Not advised
SAMPLE No.	532309	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.2	43.3	0.998	
Determination 2 (avg)	20.1	43.3		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.9	43	15	28	94



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

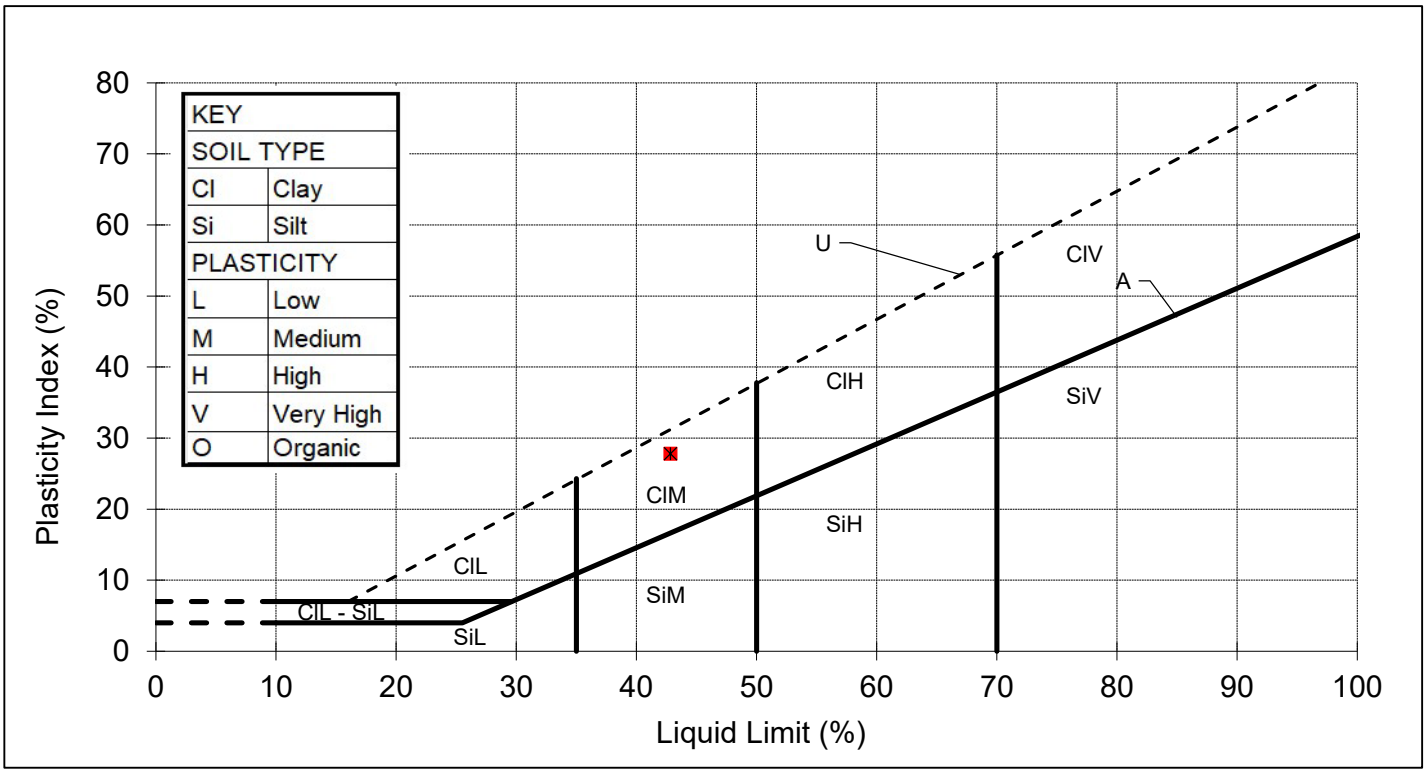
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS109: 2.0-2.45	DATE SAMPLED	Not advised
SAMPLE No.	532310	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.8	41.8	1.026	
Determination 2 (avg)	18.3	41.7		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.3	43	15	28	90



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

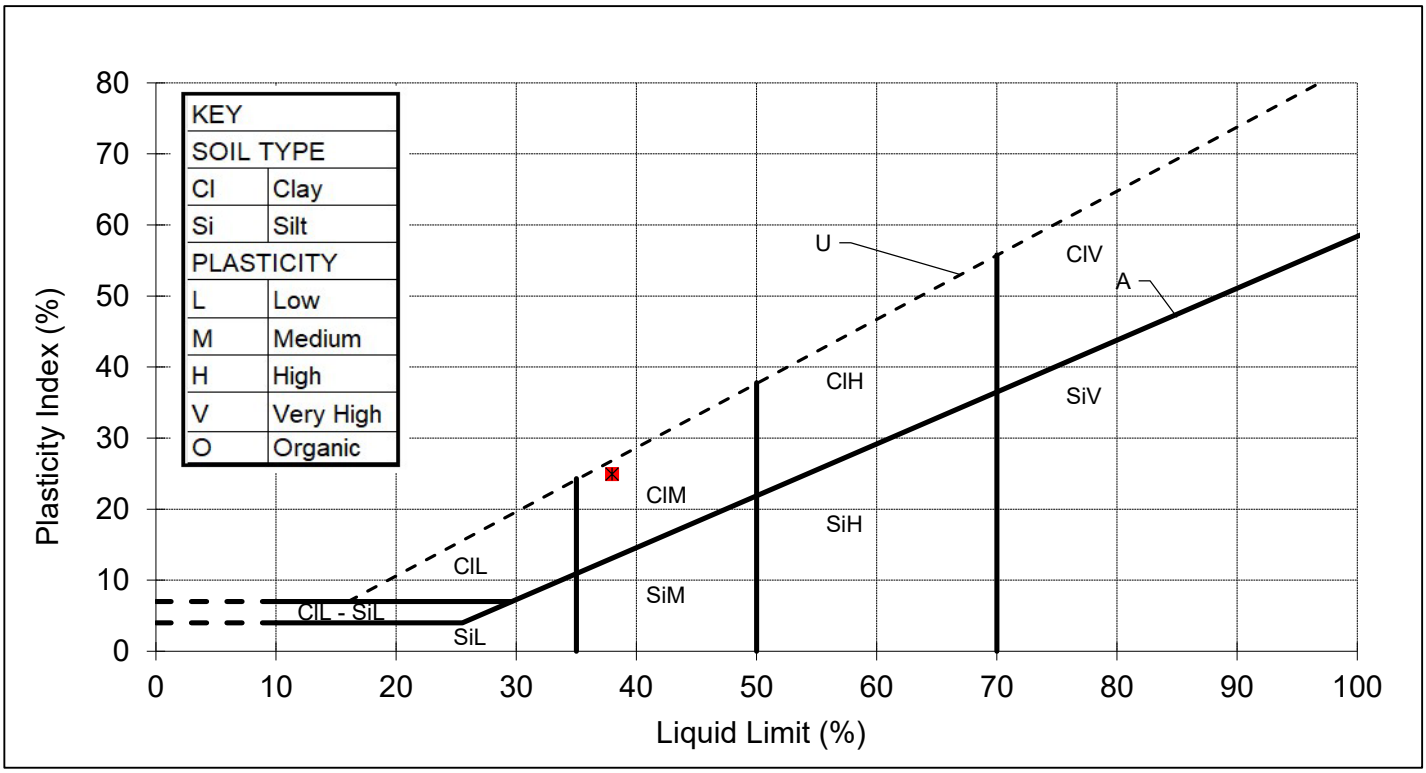
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS110: 1.2-1.65	DATE SAMPLED	Not advised
SAMPLE No.	532311	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.1	38.6	0.983	
Determination 2 (avg)	21.0	38.6		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.9	38	13	25	87



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

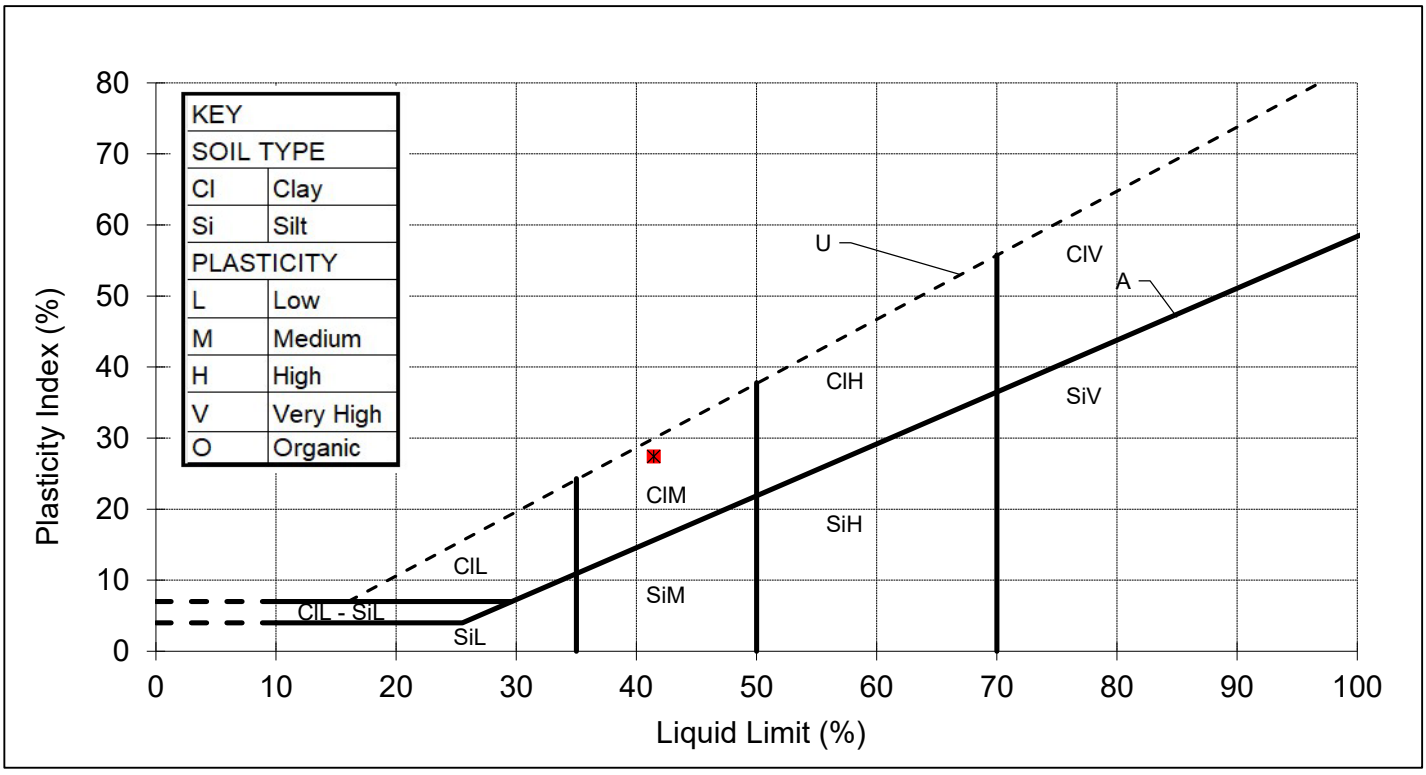
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS111: 1.2-1.65	DATE SAMPLED	Not advised
SAMPLE No.	532312	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.5	40.3	1.025	
Determination 2 (avg)	18.7	40.6		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21.2	41	14	27	95



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

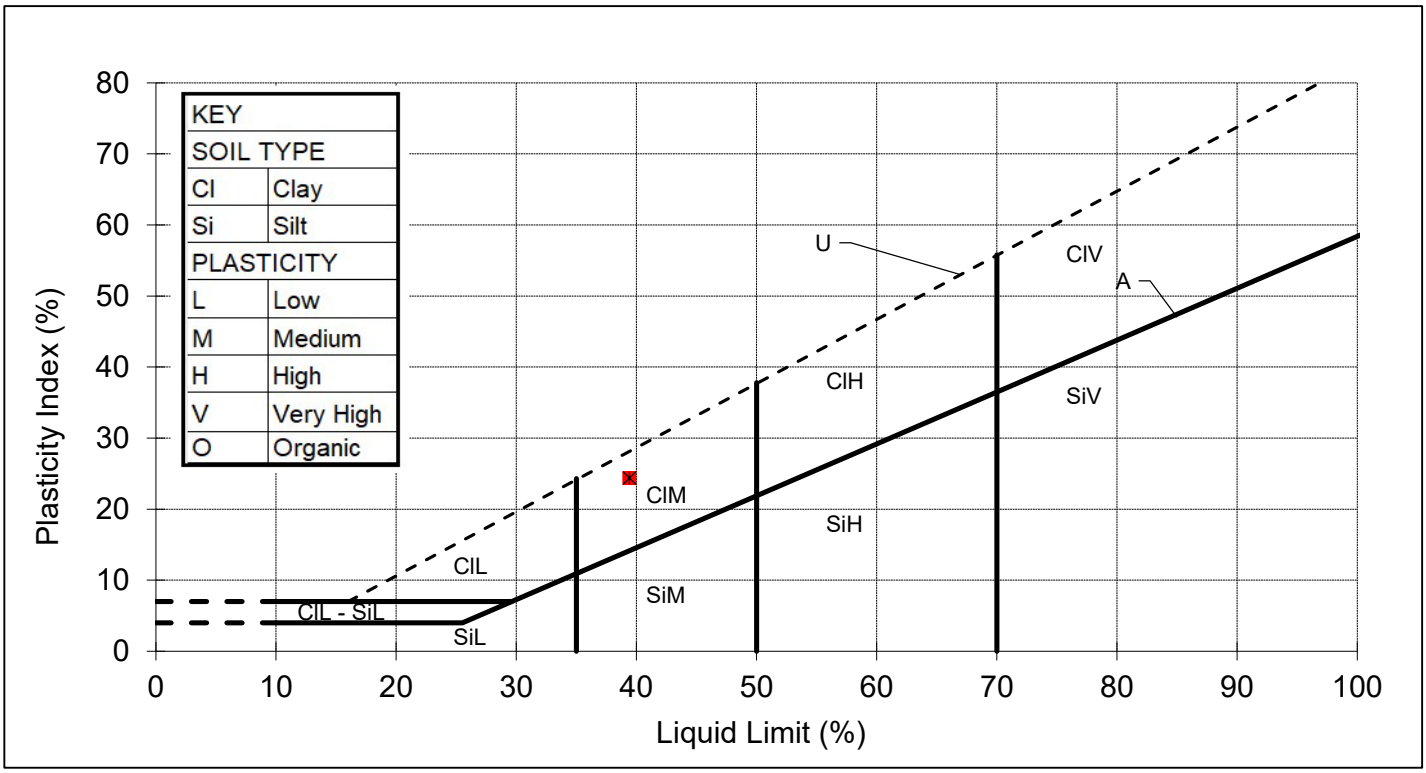
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS112: 1.5-2.0	DATE SAMPLED	Not advised
SAMPLE No.	532313	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	23.0	41.3	0.954	
Determination 2 (avg)	23.0	41.3		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
19.0	39	15	24	98



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WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

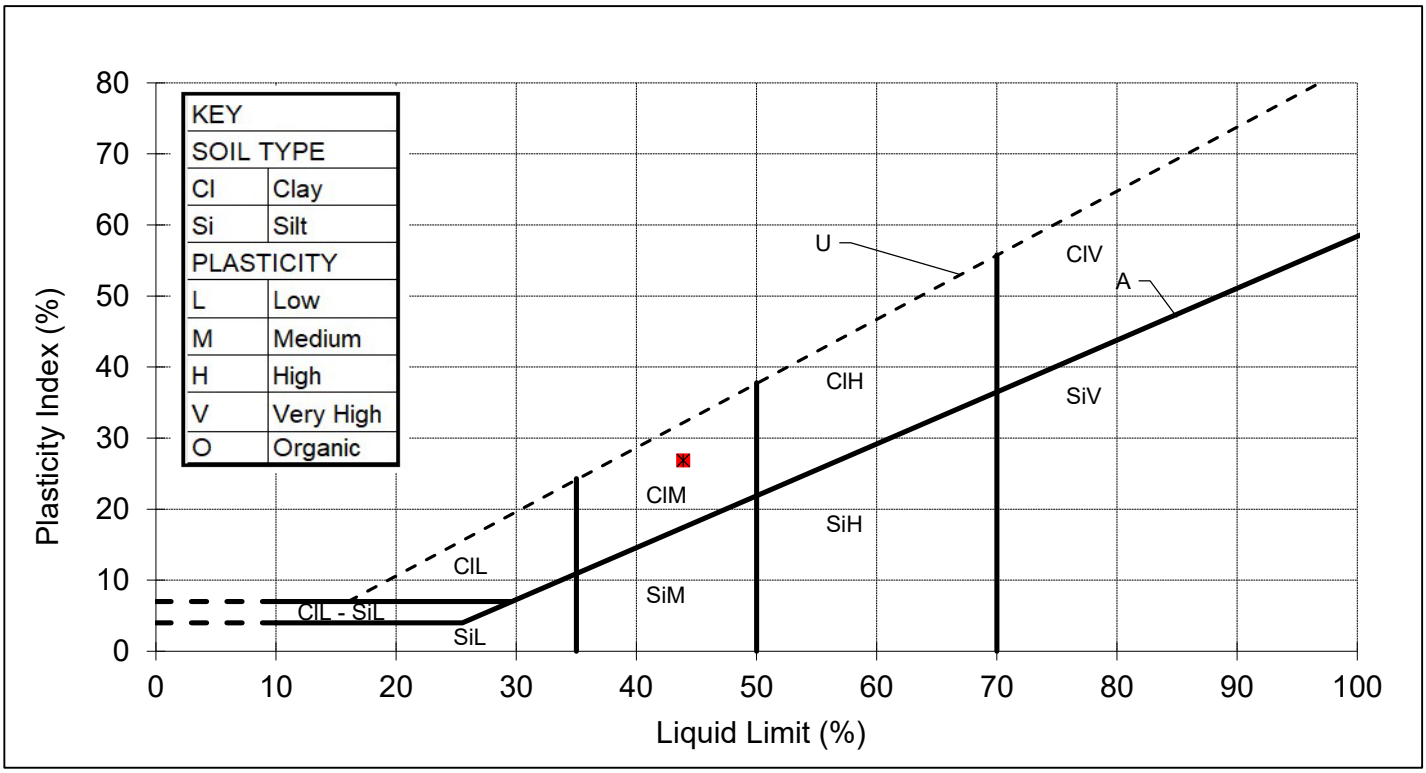
CLIENT	LK Consult Ltd
SITE	LKC 23 1566 - Ackhurst Road, Chorley
JOB NUMBER	MRN 24076/87

SAMPLE LABEL	WS113A: 1.2-1.65	DATE SAMPLED	Not advised
SAMPLE No.	532314	DATE RECEIVED	12-Aug-24
DATE TESTED	13-Aug-24	SAMPLED BY	Client

MATERIAL	Grey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	44.0	1.001	
Determination 2 (avg)	19.9	43.7		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.6	44	17	27	99



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 17-Sep-24

Appendix E – Certificates of Analysis (Water)

Peter Dunn
LK Consult Limited
Unit 29 Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

Normec DETS Limited
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 24-10098

Site Reference:	Ackhurst Road, Chorley
Project / Job Ref:	LKC 23 1566
Order No:	POR000297
Sample Receipt Date:	22/08/2024
Sample Scheduled Date:	29/08/2024
Report Issue Number:	1
Reporting Date:	03/09/2024

Authorised by:

Steve Knight
Customer Support Manager

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

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

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UKAS TESTING
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Water Analysis Certificate						
DETS Report No: 24-10098	**~Date Sampled**	21/08/24	21/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104			
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	GW	GW			
~Order No: POR000297	**~Depth (m)**	None Supplied	None Supplied			
Reporting Date: 03/09/2024	**DETS Sample No**	735129	735130			

Determinand	**Unit**	**RL**	**Accreditation**	(hs hg)	(hs hg)			
pH	pH Units	N/a	**ISO17025**	8.0	7.4			
Total Cyanide	ug/l	< 5	**ISO17025**	< 5	6			
Free Cyanide	ug/l	< 5	NONE	< 5	< 5			
Sulphate as SO_4	mg/l	< 1	**ISO17025**	41	38			
Dissolved Organic Carbon (DOC)	mg/l	<1.0	**ISO17025**	22.7	39.3			
Hardness - Total	mgCaCO3/l	< 0.25	NONE	200	293			
Arsenic (dissolved)	ug/l	< 0.2	**ISO17025**	4.4	1.6			
Boron (dissolved)	ug/l	< 1	**ISO17025**	88	135			
Cadmium (dissolved)	ug/l	< 0.2	**ISO17025**	< 0.2	< 0.2			
Chromium (dissolved)	ug/l	< 0.2	**ISO17025**	5.0	0.6			
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20			
Copper (dissolved)	ug/l	< 0.2	**ISO17025**	14.9	16.7			
Lead (dissolved)	ug/l	< 0.2	**ISO17025**	0.2	< 0.2			
Mercury (dissolved)	ug/l	< 0.04	**ISO17025**	< 0.04	< 0.04			
Nickel (dissolved)	ug/l	< 0.2	**ISO17025**	14.6	14.2			
Selenium (dissolved)	ug/l	< 0.2	**ISO17025**	0.3	0.5			
Vanadium (dissolved)	ug/l	< 0.2	**ISO17025**	1.7	2.3			
Zinc (dissolved)	ug/l	< 1	**ISO17025**	12	13			
Calcium (dissolved)	mg/l	< 0.1	**ISO17025**	55.4	82			
Total Phenols (monohydric)	ug/l	< 10	**ISO17025**	< 10	< 10			

Subcontracted analysis (S)
Insufficient sample I/S
Unsuitable Sample U/S
~Sample details provided by customer and can affect the validity of results
(hs) Please note deviating sample due to head space in container
(hg) Please note deviating sample for Mercury due to inappropriate container

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Water Analysis Certificate - Speciated PAH						
DETS Report No: 24-10098	**~Date Sampled**	21/08/24	21/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104			
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	GW	GW			
~Order No: POR000297	**~Depth (m)**	None Supplied	None Supplied			
Reporting Date: 03/09/2024	**DETS Sample No**	735129	735130			

Determinand	**Unit**	**RL**	**Accreditation**	(hs)	(hs)			
Naphthalene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Pyrene	ug/l	< 0.01	NONE	0.03	< 0.01			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	ug/l	< 0.008	NONE	< 0.008	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16			

~Sample details provided by customer and can affect the validity of results

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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 24-10098	**~Date Sampled**	21/08/24	21/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104			
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	GW	GW			
~Order No: POR000297	**~Depth (m)**	None Supplied	None Supplied			
Reporting Date: 03/09/2024	**DETS Sample No**	735129	735130			

Determinand	**Unit**	**RL**	**Accreditation**	(hs)	(hs)			
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C34 - C44 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C35 - C44 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic (C5 - C44) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70	< 70			
Total >C5 - C44 : HS_1D_MS+EH_CU_1D_Total	ug/l	< 140	NONE	< 140	< 140			

~Sample details provided by customer and can affect the validity of results
(hs) Please note deviating sample due to head space in container

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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-10098	**~Date Sampled**	21/08/24	21/08/24			
LK Consult Limited	**~Time Sampled**	None Supplied	None Supplied			
~Site Reference: Ackhurst Road, Chorley	**~TP / BH No**	WS102	WS104			
~Project / Job Ref: LKC 23 1566	**~Additional Refs**	GW	GW			
~Order No: POR000297	**~Depth (m)**	None Supplied	None Supplied			
Reporting Date: 03/09/2024	**DETS Sample No**	735129	735130			

Determinand	Unit	RL	Accreditation	(hs)	(hs)			
Benzene : HS_1D_MS	ug/l	< 1	ISO17025	< 1	< 1			
Toluene : HS_1D_MS	ug/l	< 5	ISO17025	< 5	< 5			
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5	< 5			
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10	< 10			
o-xylene : HS_1D_MS	ug/l	< 5	ISO17025	< 5	< 5			
MTBE : HS_1D_MS	ug/l	< 10	ISO17025	< 10	< 10			

~Sample details provided by customer and can affect the validity of results

(hs) Please note deviating sample due to head space in container

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Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 24-10098
LK Consult Limited
~Site Reference: Ackhurst Road, Chorley
~Project / Job Ref: LKC 23 1566
~Order No: POR000297
Reporting Date: 03/09/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	F	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	UF	Biological Oxygen Demand (BOD)	Determination using BOD sensors measuring the change of pressure	E133
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 – C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichlorometha	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered
~Sample details provided by customer and can affect the validity of results

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List of HWOL Acronyms and Operators

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

Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH - Aliphatic >C34 - C44 - raw data - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C34 - C44 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C35 - C44 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C44 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Total >C5 - C44 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Appendix F – Generic Assessment Criteria Values

Generic Assessment Criteria Values

	Contaminant	SOM	Res +	Res -	Allot.	Comm.	POSresi	POSpark	Source
Metals	Inorganic Arsenic	N/A	37	40	49	640	79	168	DEFRA C4SL
	Beryllium	N/A	1.7	1.7	35	12	2.2	63	LQM S4UL
	Boron	N/A	290	11,000	45	240,000	21,000	46,000	LQM S4UL
	Cadmium	N/A	26	149	4.9	410	220	880	DEFRA C4SL
	Chromium (III)	N/A	910	910	18,000	8,600	1,500	33,000	LQM S4UL
	Chromium (VI)	N/A	21.0	21.0	170.0	49	23.0	250	DEFRA C4SL
	Copper	N/A	2,400	7,100	520	68,000	12,000	44,000	LQM S4UL
	Lead	N/A	200	310	80	2,330	630	1,300	DEFRA C4SL
	Elemental Mercury	N/A	1.2	1.2	21	58 (25.8) vap	16	30 (25.8) vap	LQM S4UL
	Inorganic Mercury	N/A	40	56	19	1,100	120	240	LQM S4UL
	Methylmercury	N/A	11	15	6.0	320	40	68	LQM S4UL
	Nickel (2015 update)	N/A	130	180	53	980	230	800	LQM S4UL
	Selenium	N/A	250	430	88	12,000	1,100	1,800	LQM S4UL
	Vanadium	N/A	410	1,200	91	9,000	2,000	5,000	LQM S4UL
	Zinc	N/A	3,700	40,000	620	730,000	81,000	170,000	LQM S4UL
Polycyclic Aromatic Hydrocarbons (PAHs)	Acenaphthene	1%	210	3,000 (57.1) sol	34	84,000 (57.0) sol	15,000	29,000	LQM S4UL
		2.5%	510	4,700 (141) sol	85	97,000 (141) sol	15,000	30,000	LQM S4UL
		6%	1,100	6,000 (336) sol	200	100,000	15,000	30,000	LQM S4UL
	Acenaphthylene	1%	170	2,900 (86.1) sol	28	83,000 (86.1) sol	15,000	29,000	LQM S4UL
		2.5%	420	4,600 (212) sol	69	97,000 (212) sol	15,000	30,000	LQM S4UL
		6%	920	6,000 (506) sol	160	100,000	15,000	30,000	LQM S4UL
	Anthracene	1%	2,400	31,000 (1.17) vap	380	520,000	74,000	150,000	LQM S4UL
		2.5%	5,400	35,000	950	540,000	74,000	150,000	LQM S4UL
		6%	11,000	37,000	2,200	540,000	74,000	150,000	LQM S4UL
	Benz(a)anthracene	1%	7.2	11	2.9	170	29	49	LQM S4UL
		2.5%	11	14	6.5	170	29	56	LQM S4UL
		6%	13	15	13	180	29	62	LQM S4UL
	Benzo(a)pyrene (only)	1%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
		2.5%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
		6%	5.0	5.3	5.70	77	10.0	21	DEFRA C4SL
	Benzo(a)pyrene (surrogate marker Coal Tar)	1%	0.8	1.2	0.32	15	2.2	4	LQM S4UL
		2.5%	1.0	1.2	0.67	15	2.2	5	LQM S4UL
		6%	1.1	1.2	1.20	15	2.2	5	LQM S4UL
	Benzo(b)fluoranthene	1%	2.6	3.9	0.99	44	7.1	13	LQM S4UL
		2.5%	3.3	4.0	2.1	44	7.2	15	LQM S4UL
		6%	3.7	4.0	3.9	45	7.2	16	LQM S4UL
	Benzo(ghi)perylene	1%	320	360	290	3,900	640	1,400	LQM S4UL
		2.5%	340	360	470	4,000	640	1,500	LQM S4UL
		6%	350	360	640	4,000	640	1,600	LQM S4UL
	Benzo(k)fluoranthene	1%	77	110	37	1,200	190	370	LQM S4UL
		2.5%	93	110	75	1,200	190	410	LQM S4UL
		6%	100	110	130	1,200	190	440	LQM S4UL
	Chrysene	1%	15	30	4.1	350	57	93	LQM S4UL
		2.5%	22	31	9.4	350	57	110	LQM S4UL
		6%	27	32	19	350	57	120	LQM S4UL
	Dibenzo(ah)anthracene	1%	0.24	0.31	0.14	3.5	0.57	1.1	LQM S4UL
		2.5%	0.28	0.32	0.27	3.6	0.58	1.3	LQM S4UL
		6%	0.3	0.32	0.43	3.6	0.58	1.4	LQM S4UL
	Fluoranthene	1%	280	1,500	52	23,000	3,100	6,300	LQM S4UL
		2.5%	560	1,600	130	23,000	3,100	6,300	LQM S4UL
		6%	890	1,600	290	23,000	3,100	6,400	LQM S4UL
	Fluorene	1%	170	2,800 (36.0) sol	27	63,000 (30.9) sol	9,900	20,000	LQM S4UL
		2.5%	400	3,800 (76.5) sol	67	68,000	9,900	20,000	LQM S4UL
		6%	860	4,500 (183) sol	160	71,000	9,900	20,000	LQM S4UL
	Indeno(123-cd)pyrene	1%	27	45	9.5	500	82	150	LQM S4UL
		2.5%	36	46	21	510	82	170	LQM S4UL
		6%	41	46	39	510	82	180	LQM S4UL
	Naphthalene	1%	15	15	65	1,600*	11,000*	8,400*	DEFRA C4SL
		2.5%	36	36	130	3,700*	15,000*	17,00*	DEFRA C4SL
		6%	85	85	200	8,400*	1,200*	1,900*	DEFRA C4SL
	Phenanthrene	1%	95	1,300 (36.0) sol	15	22,000	3,100	6,200	LQM S4UL
		2.5%	220	1,500	38	22,000	3,100	6,200	LQM S4UL
		6%	440	1,500	90	22,000	3,100	6,300	LQM S4UL
	Pyrene	1%	620	3,700	110	54,000	7,400	15,000	LQM S4UL
		2.5%	1,200	3,800	270	54,000	7,400	15,000	LQM S4UL
		6%	2,000	3,800	620	54,000	7,400	15,000	LQM S4UL
	Coal Tar (B(a)P as surrogate marker)	1%	0.79	1.2	0.32	15	2.2	4.4	LQM S4UL
		2.5%	0.98	1.2	0.67	15	2.2	4.7	LQM S4UL
		6%	1.1	1.2	1.2	15	2.2	4.8	LQM S4UL

Generic Assessment Criteria Values

	Contaminant	SOM	Res +	Res -	Allot.	Comm.	POSresi	POSpark	Source
BTEX Compounds	Benzene	1%	0.087	0.38	0.017	27	72	90	LQM S4UL
		2.5%	0.17	0.70	0.034	47	72	100	LQM S4UL
		6%	0.37	1.4	0.075	90	73	110	LQM S4UL
	Toluene	1%	130	880 (869) vap	22	56,000 (869) vap	56,000	87,000 (869) vap	LQM S4UL
		2.5%	290	1,900	51	110,000 (1,920) vap	56,000	95,000 (1,920) vap	LQM S4UL
		6%	660	3,900	120	180,000 (4,360) vap	56,000	100,000 (4,360)	LQM S4UL
	Ethylbenzene	1%	47	83	16	5,700 (518) vap	24,000	17,000 (518) vap	LQM S4UL
		2.5%	110	190	39	13,000 (1,220) vap	24,000	22,000 (1,220) vap	LQM S4UL
		6%	260	440	91	27,000 (2,840) vap	25,000	27,000 (2,840) vap	LQM S4UL
	o-xylene	1%	60	88	28	6,600 (478) sol	41,000	17,000 (478) sol	LQM S4UL
		2.5%	140	210	67	15,000 (1,120) sol	42,000	24,000 (1,120) sol	LQM S4UL
		6%	330	480	160	33,000 (2,620) sol	43,000	33,000 (2,620) sol	LQM S4UL
	m-xylene	1%	59	82	31	6,200 (625) vap	41,000	17,000 (625) vap	LQM S4UL
		2.5%	140	190	74	14,000 (1,470) vap	42,000	24,000 (1,470) vap	LQM S4UL
		6%	320	450	170	31,000 (3,460) vap	43,000	32,000 (3,460) vap	LQM S4UL
	p-xylene	1%	56	79	29	5,900 (576) sol	41,000	17,000 (576) sol	LQM S4UL
		2.5%	130	180	69	14,000 (1,350) sol	42,000	23,000 (1,350) sol	LQM S4UL
		6%	310	430	160	30,000 (3,170) sol	43,000	31,000 (3,170) sol	LQM S4UL
Petroleum Hydroc	**Aliphatic**								
	EC 5-6	1%	42	42	730	3,200 (304) sol	570,000(304)sol	95,000 (304) sol	LQM S4UL
	EC>6-8	1%	100	100	2,300	7,800 (144) sol	600,000	150,000 (144) sol	LQM S4UL
	EC>8-10	1%	27	27	320	2,000 (78) sol	13,000	14,000 (78) vap	LQM S4UL
	EC>10-12	1%	130 (48) vap	130 (48) vap	2,200	9,700 (48) sol	13,000	21,000 (48) vap	LQM S4UL
	EC>12-16	1%	1,100 (24) sol	1,100 (24) sol	11,000	59,000 (24) sol	13,000	25,000 (24) sol	LQM S4UL
	EC>16-35	1%	65,000 (8.48)	65,000 (8.48) f ,sol	260,000 f	160,000 f	250,000 f	450,000 f	LQM S4UL
	EC>35-44	1%	65,000 (8.48)	65,000 (8.48) f ,sol	260,000 f	160,000 f	250,000 f	450,000 f	LQM S4UL
	Aliphatic								
	EC 5-6	2.5%	78	78	1,700	5,900 (558) sol	590,000	130,000 (558) sol	LQM S4UL
	EC>6-8	2.5%	230	230	5,600	17,000 (322) sol	610,000	220,000 (322) sol	LQM S4UL
	EC>8-10	2.5%	65	65	770	4,800 (190) vap	13,000	18,000 (190) vap	LQM S4UL
	EC>10-12	2.5%	330 (118) vap	330 (118) vap	4,400	23,000 (118) vap	13,000	23,000 (118) vap	LQM S4UL
	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	LQM S4UL
	EC>16-35	2.5%	92,000 (21)	92,000 (21) f ,sol	270,000 f	1,700,000 f	250,000 f	480,000 f	LQM S4UL
	EC>35-44	2.5%	92,000 (21)	92,000 (21) f ,sol	270,000 f	1,700,000 f	250,000 f	480,000 f	LQM S4UL
	Aliphatic								
	EC 5-6	6%	160	160	3,900	12,000 (1,150) sol	600,000	180,000 (1,150)	LQM S4UL
	EC>6-8	6%	530	530	13,000	40,000 (736) sol	620,000	320,000 (736) sol	LQM S4UL
	EC>8-10	6%	150	150	1,700	11,000 (451) vap	13,000	21,000 (451) vap	LQM S4UL
	EC>10-12	6%	760 (283) vap	760 (283) vap	7,300	47,000 (283) vap	13,000	24,000 (283) vap	LQM S4UL
	EC>12-16	6%	4,300 (142) sol	4,400 (142) sol	13,000	90,000 (142) sol	13,000	26,000 (142) sol	LQM S4UL
	EC>16-35	6%	110,000f	110,000f	270,000 f	1,800,000f	250,000 f	490,000 f	LQM S4UL
	EC>35-44	6%	110,000f	110,000f	270,000 f	1,800,000f	250,000 f	490,000 f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	1%	70	370	13	26,000 (1,220) sol	56,000	76,000 (1,220) sol	LQM S4UL
	EC>7-8(toluene)	1%	130	860	22	56,000 (869) vap	56,000	87,000 (869) vap	LQM S4UL
	EC>8-10	1%	34	47	8.6	3,500 (613) vap	5,000	7,200 (613) vap	LQM S4UL
	EC>10-12	1%	74	250	13	16,000 (364) sol	5,000	9,200 (364) sol	LQM S4UL
	EC>12-16	1%	140	1,800	23	36,000 (169)sol	5,100	10,000	LQM S4UL
	EC>16-21	1%	260 f	1,900 f	46 f	28,000 f	3,800 f	7,600 f	LQM S4UL
	EC>21-35	1%	1,100 f	1,900 f	370 f	28,000 f	3,800 f	7,800 f	LQM S4UL
	EC>35-44	1%	1,100 f	1,900 f	370f	28,000 f	3,800 f	7,800 f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	2.5%	140	690	27	46,000 (2,260) sol	56,000	84,000 (2,260) sol	LQM S4UL
	EC>7-8(toluene)	2.5%	290	1,800	51	110,000 (1,920) sol	56,000	95,000 (1,920) sol	LQM S4UL
	EC>8-10	2.5%	83	110	21	8,100 (1,500) vap	5,000	8,500 (1,500) vap	LQM S4UL
	EC>10-12	2.5%	180	590	31	28,000 (899) sol	5,000	9,700 (899) sol	LQM S4UL
	EC>12-16	2.5%	330	2,300 (419) sol	57	37,000	5,100	10,000	LQM S4UL
	EC>16-21	2.5%	540 f	1,900 f	110 f	28,000 f	3,800 f	7,700 f	LQM S4UL
	EC>21-35	2.5%	1,500 f	1,900 f	820 f	28,000 f	3,800 f	7,800 f	LQM S4UL
	EC>35-44	2.5%	1,500 f	1,900 f	820 f	28,000 f	3,800 f	7,800 f	LQM S4UL
	Aromatic								
	EC5-7(benzene as non-	6%	300	1,400	57	86,000 (4,710) sol	56,000	92,000 (4,710) sol	LQM S4UL
	EC>7-8(toluene)	6%	660	3,900	120	180,000 (4,360)vap	56,000	100,000 (4,360)	LQM S4UL
	EC>8-10	6%	190	270	51	17,000 (3,580) vap	5,000	9,300 (3,580) vap	LQM S4UL
	EC>10-12	6%	380	1,200	4	34,000 (2,150) sol	5,000	10,000	LQM S4UL
	EC>12-16	6%	660	2,500	130	38,000	5,100	10,000	LQM S4UL
	EC>16-21	6%	930f	1,900 f	260 f	28,000 f	3,800 f	7,800 f	LQM S4UL
	EC>21-35	6%	1,700 f	1,900 f	1,600 f	28,000 f	3,800 f	7,900 f	LQM S4UL
	EC>35-44	6%	1,700 f	1,900 f	1,600 f	28,000 f	3,800 f	7,900 f	LQM S4UL
	Aliphatic +Aromatic >EC44	1%	1,600 f	1,900 f	1,200 f	28,000 f	3,800 f	7,800 f	LQM S4UL
		2.5%	1,800 f	1,900 f	2,100 f	28,000 f	3,800 f	7,800 f	LQM S4UL
		6%	1,900 f	1,900 f	3,000 f	28,000 f	3,800 f	7,900 f	LQM S4UL

	Contaminant	SOM	Res +	Res -	Allot.	Comm.	POSresi	POSpark	Source
Chloalkanes and Alkenes & Explosives	1,2 Dichloroethane (DCA)	1%	0.0071	0.0092	0.0046	0.67	29	21	LQM S4UL
		2.5%	0.0110	0.0130	0.0083	0.97	29	24	LQM S4UL
		6%	0.0190	0.0230	0.0160	1.7	29	28	LQM S4UL
	1,1,1 Trichloroethane (TCA)	1%	8.8	9.0	48	660	140,000	57,000 (1,425) vap	LQM S4UL
		2.5%	18	18	110	1,300	140,000	76,000 (2,915) vap	LQM S4UL
		6%	39	40	240	3,000	140,000	100,000 (6,392)	LQM S4UL
	1,1,2,2-Tetrachloroethanes (PCA)	1%	1.6	3.9	0.41	270	1,400	1,800	LQM S4UL
		2.5%	3.4	8.0	0.89	550	1,400	2,100	LQM S4UL
		6%	7.5	17	2.0	1,100	1,400	2,300	LQM S4UL
	1,1,1,2-Tetrachloroethanes (PCA)	1%	1.2	1.5	0.79	110	1,400	1,500	LQM S4UL
		2.5%	2.8	3.5	1.9	250	1,400	1,800	LQM S4UL
		6%	6.4	8.2	4.4	560	1,400	2,100	LQM S4UL
	Tetrachloroethene (PCE)	1%	0.31	0.32	2.00	24	3,200	1400	DEFRA C4SL
		2.5%	0.70	0.71	4.8	55	3,300	1900	DEFRA C4SL
		6%	1.60	1.60	11.0	130	3,400	2,500	DEFRA C4SL
	Tetrachloromethane (carbon tetrachloride)	1%	0.03	0.03	0.45	2.9	890	190	LQM S4UL
		2.5%	0.06	0.06	1.0	6.3	920	270	LQM S4UL
		6%	0.13	0.13	2.4	14	950	400	LQM S4UL
	Trichloroethene (TCE)	1%	0.009	0.010	0.032	0.7	76.0	41.0	DEFRA C4SL
		2.5%	0.020	0.020	0.072	1.5	78.0	51.0	DEFRA C4SL
		6%	0.043	0.045	0.160	3.4	79.0	69.0	DEFRA C4SL
	cis 1,2-dichloroethene	1%	0.46	0.50	0.890	38	3,800	2,000	DEFRA C4SL
		2.5%	0.78	0.84	1.70	64	3,800	2,400	DEFRA C4SL
		6%	1.50	1.60	3.60	120	3,900	3,100	DEFRA C4SL
	Trichloromethane (chloroform)	1%	0.91	1.2	0.42	99	2,500	2,600	LQM S4UL
		2.5%	1.7	2.1	0.83	170	2,500	2,800	LQM S4UL
		6%	3.4	4.2	1.7	350	2,500	3,100	LQM S4UL
	Trans-1,2 Dichloroethene	1%	0.9	0.9	3.7	69	13,000	5,600	DEFRA C4SL
		2.5%	1.6	1.7	7.5	120	13,000	7,000	DEFRA C4SL
		6%	3.3	3.4	16.0	260	13,000	9,100	DEFRA C4SL
	Chloroethene (vinyl chloride)	1%	0.006	0.015	0.0017	1.1E+00	7.8	18.0	DEFRA C4SL
		2.5%	0.010	0.019	0.0031	1.4E+00	7.8	19.0	DEFRA C4SL
		6%	0.017	0.029	0.0058	2.20	7.8	19.0	DEFRA C4SL
	2,4,6-Trinitritoluene (TNT)	1%	1.6	65	0.24	1,000	130	260	LQM S4UL
		2.5%	3.7	66	0.58	1,000	130	270	LQM S4UL
		6%	8.1	66	1.4	1,000	130	270	LQM S4UL
	RDX	1%	120	13,000	17	210,000	26,000	49,000 (18.7) sol	LQM S4UL
		2.5%	250	13,000	38	210,000	26,000	51,000	LQM S4UL
		6%	540	13,000	85	210,000	27,000	53,000	LQM S4UL
	HMX	1%	5.7	6,700	0.86	110,000	13,000	23,000 (0.35) vap	LQM S4UL
		2.5%	13	6,700	1.9	110,000	13,000	23,000 (0.39) vap	LQM S4UL
		6%	26	6,700	3.9	110,000	13,000	24,000 (0.48) vap	LQM S4UL
Pesticides	Aldrin	1%	5.7	7.3	3.2	170	18	30	LQM S4UL
		2.5%	6.6	7.4	6.1	170	18	31	LQM S4UL
		6%	7.1	7.5	9.8	170	18	31	LQM S4UL
	Dieldrin	1%	0.97	7.0	0.17	170	18	30	LQM S4UL
		2.5%	2.0	7.3	0.41	170	18	30	LQM S4UL
		6%	3.5	7.4	0.96	170	18	31	LQM S4UL
	Atrazine	1%	3.3	610	0.5	9,300	1,200	2,300	LQM S4UL
		2.5%	7.8	620	1.2	9,400	1,200	2,400	LQM S4UL
		6%	17.4	620	2.7	9,400	1,200	2,400	LQM S4UL
	Dichlorvos	1%	3.2E-02	6.4	4.9E-03	140	16	26	LQM S4UL
		2.5%	6.6E-02	6.5	1.0E-02	140	16	26	LQM S4UL
		6%	0.14	6.6	2.2E-02	140	16	27	LQM S4UL
	Endosulfanns (2 isomers)	1%	7.4	160 (3.0E-03) vap	1.2	5,600 (3.0E-03) vap	1,200	2,300	LQM S4UL
		2.5%	18	280 (7.0E-03) vap	2.9	7,400 (7.0E-03) vap	1,200	2,400	LQM S4UL
		6%	41	410 (1.6E-02) vap	6.8	8,400 (1.6E-02) vap	1,200	2,500	LQM S4UL
	Hexachlorocyclohexane (3 isomers), inc Lindane	1%	8.5E-02	3.7	1.3E-02	65	8.1	15	LQM S4UL
		2.5%	0.2	3.8	3.2E-02	65	8.1	15	LQM S4UL
		6%	0.46	3.8	7.7E-02	65	8.1	16	LQM S4UL
Chlorobenzenes	Chlorobenzene	1%	0.46	0.46	5.9	56	11,000	1,300 (675) sol	LQM S4UL
		2.5%	1.0	1.0	14	130	13,000	2,000 (1,520) sol	LQM S4UL
		6%	2.4	2.4	32	290	14,000	2,900	LQM S4UL
	Dichlorobenzenes (3 isomers)	1%	23	24	94	2,000 (571) sol	90,000	24,000 (571) sol	LQM S4UL
		2.5%	55	57	230	4,800 (1,370) sol	95,000	36,000 (1,370) sol	LQM S4UL
		6%	130	130	540	11,000 (3,240) sol	98,000	51,000 (3,270) sol	LQM S4UL
	Trichlorobenzenes (3 isomers)	1%	2.6	2.6	55	220	15,000	1,700 (318) vap	LQM S4UL
		2.5%	6.4	6.4	140	530	17,000	2,600 (786) vap	LQM S4UL
		6%	15	15	320	1,300	19,000	4,000 (1,880) vap	LQM S4UL
	Tetrachlorobenzenes (3 isomers)	1%	0.66	0.75	0.38	49 (39.4) vap	78	110 (39) vap	LQM S4UL
		2.5%	1.6	1.9	0.90	120 (98.1) vap	79	120	LQM S4UL
		6%	3.7	4.3	2.2	240 (235) vap	79	130	LQM S4UL
	Pentachlorobenzene	1%	5.8	19	1.2	640 (43.0) sol	100	190	LQM S4UL
		2.5%	12	30	3.1	770 (107) sol	100	190	LQM S4UL
		6%	22	38	7.0	830	100	190	LQM S4UL
	Hexachlorobenzene	1%	1.8 (0.20) vap	4.1 (0.20) vap	0.47	110 (0.20) vap	16	30	LQM S4UL
		2.5%	3.3 (0.50) vap	5.7 (0.50) vap	1.1	120	16	30	LQM S4UL
		6%	4.9	6.7 (1.2) vap	2.5	120	16	30	LQM S4UL

Generic Assessment Criteria Values

	Contaminant	SOM	Res +	Res -	Allot.	Comm.	POSresi	POSpark	Source
Chlorophenol	Chlorophenols (4 congeners)	1%	0.87 [g]	94	0.13 [g]	3,500	620	1,100	LQM S4UL
		2.5%	2.0	150	0.30	4,000	620	1,100	LQM S4UL
		6%	4.5	210	0.70	4,300	620	1,100	LQM S4UL
	Pentachlorophenol	1%	0.22	27 (16.4) [vap]	3.0E-02	400	60	110	LQM S4UL
		2.5%	0.52	29	8.0E-02	400	60	120	LQM S4UL
		6%	1.2	31	0.19	400	60	120	LQM S4UL
Others	Carbon Disulphide	1%	0.14	0.14	4.8	11	11,000	1,300	LQM S4UL
		2.5%	0.29	0.29	10	22	11,000	1,900	LQM S4UL
		6%	0.62	0.62	23	47	11,000	2,700	LQM S4UL
	Hexachlorobutadiene	1%	0.29	0.32	0.25	31	25	48	LQM S4UL
		2.5%	0.7	0.78	0.61	66	25	50	LQM S4UL
		6%	1.6	1.8	1.4	120	25	51	LQM S4UL
	Phenol	1%	120	440 (460)	23	440 [dir] (26,000)	440 [dir] (10,000)	440 [dir] (7,600)	LQM S4UL
		2.5%	200	690	42	690 [dir] (30,000)	690 [dir] (10,000)	690 [dir] (8,300)	LQM S4UL
		6%	380	1,200	83	1,300 [dir] (34,000)	1,300 [dir] (10,000)	1,300 [dir] (9,300)	LQM S4UL

sol/vap = solubility/vapour limit (potenitally use if free product identified, although highly conservative)
*=naphthalene C4SL exceeds the CLEA calculated soil saturation concentration (76 mg kg-1 for 1% SOM,
183 mg kg-1 for 2.5% SOM and 432 mg kg-1 for 6% SOM)
f = oral, dermal and inhalation exposures compared to oral HCV
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-tetrachlorophenol

Appendix G – Comparison Output Sheets

Location Results Sheet

Job Name Ackhurst Road

Job Number LKC 23 1566

Assessment Threshold Used Commercial

SOIL TYPE																							
SAMPLE LOCATION	WS101	WS102	WS102	WS102	WS103	WS103	WS104	WS104	WS105	WS105	WS105	WS106	WS106	WS108	WS108	WS109	WS110	WS110	WS111	WS112	WS101B	WS107	WS113A
DEPTH (m)	0.30 - 1.20	0.10 - 1.20	1.20 - 1.50	1.20 - 1.50	0.30 - 0.60	0.60 - 1.00	0.20 - 1.00	1.00 - 1.50	0.20 - 1.00	0.50 - 1.00	1.00 - 1.50	0.30 - 0.60	0.60 - 1.00	0.05 - 0.40	0.40 - 1.00	0.10 - 0.80	0.12 - 0.60	0.60 - 1.00	0.00 - 0.40	0.00 - 0.50	0.10 - 0.50	0.70 - 1.00	0.50 - 1.00
pH	8.90	8.50			7.90	7.40	7.40		7.70	7.00		8.00		7.80		7.40	7.10	7.40	7.40	7.30	8.90	7.50	7.60
Water Soluble Sulphate as SO4 (2:1) BRE SD1 (mg/l)	< 10	128.00			23.00	28.00	117.00		85.00	14.00		692.00		28.00		236.00	146.00	60.00	< 10	< 10	1530.00	76.00	49.00
Mositure Content (%)	12.20	20.70	17.00		13.90	19.20	21.40		13.30	22.30		18.60		9.80		7.40	12.70	15.60	15.80	17.70	5.80	19.30	15.90
Organic Matter (SOM) (%)	2.90	3.70	1.40		1.50		7.80		12.70			3.40		1.40		1.10	16.20		3.70	2.30	4.80	1.60	1.10
Arsenic	6.00	7.00			7.00		13.00		32.00			16.00		6.00		6.00	28.00		13.00	9.00	7.00	7.00	8.00
Beryllium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Soluble Boron	2.50	< 1					1.00									< 1	< 1			< 1	1.20	< 1	
Cadmium	< 0.2	< 0.2			< 0.2		< 0.2		< 0.2			< 0.2		< 0.2		< 0.2	0.30		0.30	< 0.2	0.20	< 0.2	< 0.2
Copper	23.00	23.00			8.00		28.00		71.00			25.00		7.00		5.00	60.00		29.00	20.00	25.00	11.00	18.00
Chromium	15.00	26.00			19.00		20.00		15.00			32.00		9.00		6.00	17.00		26.00	29.00	12.00	31.00	28.00
Hexavalent Chromium	< 2	< 2			< 2		< 2		< 2			< 2		< 2		< 2	< 2		< 2	< 2	< 2	< 2	< 2
Free Cyanide	< 1	< 1					< 1									< 1	< 1			< 1	< 1	< 1	
Total Cyanide	< 1	< 1					< 1									< 1	< 1			< 1	< 1	< 1	
Lead	35.00	52.00			9.00		60.00		44.00			15.00		6.00		4.00	48.00		67.00	28.00	47.00	12.00	9.00
Mercury, Elemental																							
Mercury, Inorganic	< 1	< 1			< 1		< 1		< 1			< 1		< 1		< 1	< 1		< 1	< 1	< 1	< 1	< 1
Mercury, Methyl																							
Nickel	9.00	17.00			14.00		17.00		21.00			42.00		9.00		8.00	28.00		22.00	22.00	11.00	23.00	30.00
Selenium	< 2	< 2			< 2		< 2		< 2			< 2		< 2		< 2	< 2		< 2	< 2	< 2	< 2	< 2
Vanadium	12.00	21.00			29.00		28.00		30.00			33.00		10.00		7.00	33.00		33.00		16.00	40.00	31.00
Zinc	287.00	190.00			28.00		165.00		33.00			46.00		19.00		9.00	54.00		69.00	49.00	99.00	38.00	40.00
Monohydric Phenol	< 2	< 2					< 2									< 2	< 2			< 2	< 2	< 2	
Asbestos Screen	Not Detected	Detected			Not Detected		Not Detected		Not Detected			Not Detected		Not Detected		Not Detected	Not Detected		Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Asbestos Matrix		present as f																					
Asbestos Quantification (Subcon to DETS)		< 0.001																					
Naphthalene	< 0.1	< 0.1			< 0.1		< 0.1		0.14			< 0.1		< 0.1		< 0.1	< 0.1		< 0.1	< 0.1	0.15	< 0.1	< 0.1
Acenaphthylene	< 0.1	< 0.1			< 0.1		< 0.1		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	< 0.1	< 0.1			< 0.1		0.36		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		< 0.1	< 0.1	0.35	< 0.1	< 0.1
Fluorene	< 0.1	< 0.1			< 0.1		0.32		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		< 0.1	< 0.1	0.27	< 0.1	< 0.1
Phenanthrene	0.36	< 0.1			< 0.1		0.67		0.31			< 0.1		< 0.1		0.17	0.28		0.81	0.24	1.87	< 0.1	< 0.1
Anthracene	< 0.1	< 0.1			< 0.1		0.32		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.18	< 0.1	0.45	< 0.1	< 0.1
Fluoranthene	0.50	0.23			< 0.1		2.30		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		1.19	0.45	4.32	< 0.1	< 0.1
Pyrene	0.44	0.24			< 0.1		1.93		< 0.1			< 0.1		< 0.1		0.17	< 0.1		1.09	0.44	3.86	< 0.1	< 0.1
Benzo(a)anthracene	0.17	0.13			< 0.1		0.80		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.51	0.23	2.22	< 0.1	< 0.1
Chrysene	0.20	0.14			< 0.1		0.71		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.57	0.24	1.81	< 0.1	< 0.1
Benzo(b)fluoranthene	0.13	0.15			< 0.1		0.84		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.52	0.22	2.83	< 0.1	< 0.1
Benzo(k)fluoranthene	< 0.1	< 0.1			< 0.1		0.25		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.12	< 0.1	1.03	< 0.1	< 0.1
Benzo(a)pyrene	0.13	0.15			< 0.1		0.87		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.46	0.21	3.00	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	< 0.1	0.14			< 0.1		0.62		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.24	< 0.1	1.73	< 0.1	< 0.1
Di-benzo(a,h)anthracene	< 0.1	< 0.1			< 0.1		< 0.1		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		< 0.1	< 0.1	0.31	< 0.1	< 0.1
Benzo(ghi)perylene	< 0.1	0.15			< 0.1		0.62		< 0.1			< 0.1		< 0.1		< 0.1	< 0.1		0.21	0.12	1.66	< 0.1	< 0.1
Total EPA-16 PAHs	1.90	< 1.6			< 1.6		10.60		< 1.6			< 1.6		< 1.6		< 1.6	< 1.6		5.90	2.10	25.90	< 1.6	< 1.6
TPH CWG - Aliphatic >C5 - C6	< 0.01	< 0.01	< 0.01				< 0.01									< 0.01	< 0.01			< 0.01	< 0.01	< 0.01	
TPH CWG - Aliphatic >C6 - C8	< 0.05	< 0.05	< 0.05				< 0.05									< 0.05	< 0.05			< 0.05	< 0.05	< 0.05	
TPH CWG - Aliphatic >C8 - C10	< 2	< 2	< 2				< 2									< 2	< 2			< 2	< 2	< 2	
TPH CWG - Aliphatic >C10 - C12	< 2	< 2	< 2				< 2									11.00	< 2			< 2	< 2	< 2	
TPH CWG - Aliphatic >C12 - C16	< 3	< 3	< 3				7.00									46.00	< 3			< 3	15.00	< 3	
TPH CWG - Aliphatic >C16 - C21	< 3	< 3	< 3				< 3									37.00	< 3			< 3	37.00	< 3	
TPH CWG - Aliphatic >C21 - C34	< 10	< 10	< 10				32.00									87.00	< 10			< 10	397.00	< 10	
TPH CWG - Aliphatic >C34 - C44																< 10	< 10			< 10	182.00	< 10	
TPH CWG - Aliphatic >C5 - C44																180.00	< 21			< 21	631.00	< 21	
TPH CWG - Aromatic >C5 - C7	< 0.01	< 0.01	< 0.01				< 0.01									< 0.01	< 0.01			< 0.01	< 0.01	< 0.01	
TPH CWG - Aromatic >C7 - C8	< 0.05	< 0.05	< 0.05				< 0.05									< 0.05	< 0.05			< 0.05	< 0.05	< 0.05	
TPH CWG - Aromatic >C8 - C10	< 2	< 2	< 2				< 2									< 2	< 2			< 2	< 2	< 2	
TPH CWG - Aromatic >C10 - C12	< 2	< 2	< 2				< 2									3.00	< 2			< 2	< 2	< 2	
TPH CWG - Aromatic >C12 - C16	< 2	< 2	< 2				5.00									50.00	3.00			< 2	8.00	< 2	
TPH CWG - Aromatic >C16 - C21	< 3	< 3	< 3				14.00									77.00	8.00			< 3	60.00	< 3	
TPH CWG - Aromatic >C21 - C35	< 10	< 10	< 10				68.00									181.00	< 10			< 10	388.00	< 10	
TPH CWG - Aromatic >C35 - C44																< 10	< 10			< 10	88.00	< 10	
TPH CWG - Aromatic >C5 - C44																310.00	< 21			< 21	544.00	< 21	
TPH CWG - Total >C5 - C44																491.00	< 42			< 42	1175.00	< 42	
Benzene	< 2	< 2	< 2				< 2									< 2	< 2			< 2	< 2	< 2	
Toluene	< 5	< 5	< 5				< 5									< 5	< 5			< 5	< 5	< 5	
Ethylbenzene	3.00	< 2	< 2				< 2									< 2	< 2			< 2	2.00	< 2	
m & p-xylene	3.00	< 2	4.00				< 2									< 2	< 2			< 2	2.00	< 2	
o-Xylene	< 2	< 2	< 2				< 2									< 2	< 2			< 2	2.00	< 2	
MTBE	< 5	< 5	< 5				< 5									< 5	< 5			< 5	< 5	< 5	
Dichlorodifluoromethane																				< 5			
Vinyl Chloride																				< 5			
Chloromethane																				< 10			
Chloroethane																				< 5			
Bromomethane																				< 10			
Trichlorofluoromethane																				< 5			
1,1-Dichloroethene																				< 5			
MTBE	< 5	< 5	< 5				< 5									< 5	< 5			< 5	< 5	< 5	
trans-1,2-Dichloroethene																				< 5			
1,1-Dichloroethane																				< 5			
cis-1,2-Dichloroethene																				< 5			
2,2-Dichloropropane																				< 5			
Chloroform																				< 5			
Bromochloromethane																				< 5			
1,1,1-Trichloroethane																				< 5			
1,1-Dichloropropene																				< 10			
Carbon Tetrachloride																				< 5			
1,2-Dichloroethane																				< 5			
Benzene	< 2	< 2	< 2				< 2									< 2	< 2			< 2	< 2	< 2	
1,2-Dichloropropane																				< 5			
Trichloroethene																				< 5			
Bromodichloromethane																				< 5			
Dibromomethane																				< 5			
TAME																				< 5			
cis-1,3-Dichloropropene																				< 5			
Toluene	< 5	< 5	< 5				< 5									< 5	< 5			< 5	< 5	< 5	
trans-1,3-Dichloropropene																				< 5			
1,1,2-Trichloroethane																				< 10			
1,3-Dichloropropane																				< 5			
Tetrachloroethene																				< 5			
Dibromochloromethane																				< 5			
1,2-Dibromoethane																				< 5			
Chlorobenzene																				< 5			
1,1,1,2-Tetrachloroethane																				< 5			
Ethylbenzene	3.00	< 2	< 2				< 2									< 2	< 2			< 2	2.00	< 2	
m,p-Xylene																				< 2			
o-Xylene	< 2	< 2	< 2				< 2									< 2	< 2			< 2	2.00	< 2	
Styrene																				< 5			
Bromoform																				< 10			
Isopropylbenzene																				< 5			
1,1,2,2-Tetrachloroethane																				< 5			
1,2,3-Trichloropropane																				< 5			
n-Propylbenzene																				< 5			
Bromobenzene																				< 5			
2-Chlorotoluene																				< 5			
1,3,5-Trimethylbenzene																				< 5			
4-Chlorotoluene																				< 5			
tert-Butylbenzene																				< 5			
1,2,4-Trimethylbenzene																				< 5			
sec-Butylbenzene																				< 5			
p-Isopropyltoluene																				< 5			
1,3-Dichlorobenzene																				< 5			
1,4-Dichlorobenzene																				< 5			
n-Butylbenzene																				< 5			
1,2-Dichlorobenzene																				< 5			
1,2-Dibromo-3-chloropropane																				< 10			
Hexachlorobutadiene																				< 5			
Name Compound 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Name Compound 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Name Compound 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Name Compound 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Name Compound 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Match Compound 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Match Compound 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Match Compound 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Match Compound 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Match Compound 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Concentration Compound 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix H – HazWaste Online Classification Output Sheets

HazWasteOnline™

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:

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

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

40BH4-SS37A-FPS9Z

Job name

LKC231566

Description/Comments

Project

LKC231566

Site

Ackhurst Road

Classified by

Name:
Peter Dunn
Company:
LK Group
Date:
24 Sep 2024 09:28 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	Date
Hazardous Waste Classification	26 Mar 2015 *
Most recent 3 year Refresher	02 Aug 2022

Next 3 year Refresher due by Aug 2025
* training course booked

Purpose of classification

2 - Material Characterisation

Address of the waste

Ackhurst Road, Chorley **Post Code** PR7 1NR

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Development of brownfield land

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

Construction

Description of the waste

Soil

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS101-0.30 - 1.20-05/08/2024	0.30 - 1.20	Non Hazardous		3
2	WS102-0.10 - 1.20-05/08/2024	0.10 - 1.20	Non Hazardous		6
3	WS102-1.20 - 1.50-05/08/2024	1.20 - 1.50	Non Hazardous		9
4	WS103-0.30 - 0.60-05/08/2024	0.30 - 0.60	Non Hazardous		11
5	WS103-0.60 - 1.00-05/08/2024	0.60 - 1.00	Non Hazardous		13
6	WS104-0.20 - 1.00-05/08/2024	0.20 - 1.00	Non Hazardous		14
7	WS105-0.20 - 1.00-05/08/2024	0.20 - 1.00	Non Hazardous		17
8	WS105-0.50 - 1.00-05/08/2024	0.50 - 1.00	Non Hazardous		19
9	WS106-0.30 - 0.60-05/08/2024	0.30 - 0.60	Non Hazardous		20
10	WS108-0.05 - 0.40-05/08/2024	0.05 - 0.40	Non Hazardous		22
11	WS109-0.10 - 0.80-06/08/2024	0.10 - 0.80	Non Hazardous		24
12	WS110-0.12 - 0.60-06/08/2024	0.12 - 0.60	Non Hazardous		27
13	WS110-0.60 - 1.00-06/08/2024	0.60 - 1.00	Non Hazardous		30
14	WS111-0.00 - 0.40-06/08/2024	0.00 - 0.40	Non Hazardous		31
15	WS112-0.00 - 0.50-06/08/2024	0.00 - 0.50	Non Hazardous		33
16	WS101B-0.10 - 0.50-06/08/2024	0.10 - 0.50	Hazardous	HP 3(i), HP 7, HP 11	39
17	WS107-0.70 - 1.00-06/08/2024	0.70 - 1.00	Non Hazardous		42
18	WS113A-0.50 - 1.00-06/08/2024	0.50 - 1.00	Non Hazardous		45

Related documents

#	Name	Description
1	24-09020.1.hwol	DETS South .hwol file used to populate the Job
2	24-09201.1.hwol	DETS South .hwol file used to populate the Job
3	LK SUITE 1 - 5	waste stream template used to create this Job

Report

Created by: Peter Dunn

Created date: 24 Sep 2024 09:28 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	47
Appendix B: Rationale for selection of metal species	51
Appendix C: Version	52

Classification of sample: WS101-0.30 - 1.20-05/08/2024

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

Sample details

Sample name:
WS101-0.30 - 1.20-05/08/2024
Sample Depth:
0.30 - 1.20 m
Moisture content:
12.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	6.955 mg/kg	0.000696 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	19.249 mg/kg	0.00192 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23 mg/kg	1.126	22.736 mg/kg	0.00227 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		9 mg/kg	1.273	10.056 mg/kg	0.00101 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	35 mg/kg		30.73 mg/kg	0.00307 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		12 mg/kg	1.785	18.809 mg/kg	0.00188 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		287 mg/kg	1.245	313.65 mg/kg	0.0314 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2.5 mg/kg	3.22	7.068 mg/kg	0.000707 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				0.003	mg/kg		0.0026	mg/kg	0.000000263 %	✓	
		601-023-00-4	202-849-4	100-41-4									
18		xylene				0.003	mg/kg		0.0026	mg/kg	0.000000263 %	✓	
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
		006-007-00-5											
20		pH				8.9	pH		8.9	pH	8.9 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
25		phenanthrene				0.36	mg/kg		0.316	mg/kg	0.0000316 %	✓	
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
27		fluoranthene				0.5	mg/kg		0.439	mg/kg	0.0000439 %	✓	
			205-912-4	206-44-0									
28		pyrene				0.44	mg/kg		0.386	mg/kg	0.0000386 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				0.17	mg/kg		0.149	mg/kg	0.0000149 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				0.2	mg/kg		0.176	mg/kg	0.0000176 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				0.13	mg/kg		0.114	mg/kg	0.0000114 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				0.13	mg/kg		0.114	mg/kg	0.0000114 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
37		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.0486 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Concentrations at less than 1.0% are "unlikely to be flammable". Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

ethylbenzene: (conc.: 2.63e-07%)

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

Because of determinand:

xylene: (conc.: 2.63e-07%)

Classification of sample: WS102-0.10 - 1.20-05/08/2024

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

Sample details

Sample name:
WS102-0.10 - 1.20-05/08/2024
Sample Depth:
0.10 - 1.20 m
Moisture content:
20.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7	mg/kg	1.32	7.329	mg/kg	0.000733 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26	mg/kg	1.462	30.134	mg/kg	0.00301 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	20.535	mg/kg	0.00205 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		17	mg/kg	1.273	17.156	mg/kg	0.00172 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	52	mg/kg		41.236	mg/kg	0.00412 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		21	mg/kg	1.785	29.729	mg/kg	0.00297 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		190	mg/kg	1.245	187.541	mg/kg	0.0188 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
13	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
20		pH			PH		8.5	pH		8.5	pH	8.5 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		0.23	mg/kg		0.182	mg/kg	0.0000182 %	✓	
28		pyrene		204-927-3	129-00-0		0.24	mg/kg		0.19	mg/kg	0.000019 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.13	mg/kg		0.103	mg/kg	0.0000103 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.14	mg/kg		0.111	mg/kg	0.0000111 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.15	mg/kg		0.119	mg/kg	0.0000119 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.15	mg/kg		0.119	mg/kg	0.0000119 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.14	mg/kg		0.111	mg/kg	0.0000111 %	✓	
35		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
36		benzo[ghi]perylene		205-883-8	191-24-2		0.15	mg/kg		0.119	mg/kg	0.0000119 %	✓	
37		asbestos	650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
38		monohydric phenols		P1186		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
								Total:	0.0403 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS102-1.20 - 1.50-05/08/2024

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

Sample details

Sample name:
WS102-1.20 - 1.50-05/08/2024
Sample Depth:
1.20 - 1.50 m
Moisture content:
17%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	●	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		**<LOD**
2		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		**<LOD**
3		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
4		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		**<LOD**
5	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
6		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.004	mg/kg		0.0033	mg/kg	0.000000332 %	✓	
											Total:	0.0042 %		

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%)
because: Concentrations at less than 1.0% are "unlikely to be flammable". Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 3.32e-07%)

Classification of sample: WS103-0.30 - 0.60-05/08/2024

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

Sample details

Sample name:
WS103-0.30 - 0.60-05/08/2024
Sample Depth:
0.30 - 0.60 m
Moisture content:
13.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7 mg/kg	1.32	7.958 mg/kg	0.000796 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19 mg/kg	1.462	23.91 mg/kg	0.00239 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	7.755 mg/kg	0.000776 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		14 mg/kg	1.273	15.34 mg/kg	0.00153 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		7.749 mg/kg	0.000775 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		29 mg/kg	1.785	44.574 mg/kg	0.00446 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		28 mg/kg	1.245	30.008 mg/kg	0.003 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	pH			PH		7.9 pH		7.9 pH	7.9 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
15		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
16		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
17		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
18		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
19		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
20		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0147 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS103-0.60 - 1.00-05/08/2024

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

Sample details

Sample name:
WS103-0.60 - 1.00-05/08/2024
Sample Depth:
0.60 - 1.00 m
Moisture content:
19.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.2% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		7.4 pH		7.4 pH	7.4 pH		
								Total:	0%		

Key

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

Classification of sample: WS104-0.20 - 1.00-05/08/2024

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

Sample details

Sample name:
WS104-0.20 - 1.00-05/08/2024
Sample Depth:
0.20 - 1.00 m
Moisture content:
21.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	13.491 mg/kg	0.00135 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	22.976 mg/kg	0.0023 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	24.779 mg/kg	0.00248 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		17 mg/kg	1.273	17.004 mg/kg	0.0017 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	60 mg/kg		47.16 mg/kg	0.00472 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		28 mg/kg	1.785	39.288 mg/kg	0.00393 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		165 mg/kg	1.245	161.427 mg/kg	0.0161 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1 mg/kg	3.22	2.531 mg/kg	0.000253 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		145 mg/kg		113.97 mg/kg	0.0114 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
20		pH			PH		7.4	pH		7.4	pH	7.4 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		0.36	mg/kg		0.283	mg/kg	0.0000283 %	✓	
24		fluorene		201-695-5	86-73-7		0.32	mg/kg		0.252	mg/kg	0.0000252 %	✓	
25		phenanthrene		201-581-5	85-01-8		0.67	mg/kg		0.527	mg/kg	0.0000527 %	✓	
26		anthracene		204-371-1	120-12-7		0.32	mg/kg		0.252	mg/kg	0.0000252 %	✓	
27		fluoranthene		205-912-4	206-44-0		2.3	mg/kg		1.808	mg/kg	0.000181 %	✓	
28		pyrene		204-927-3	129-00-0		1.93	mg/kg		1.517	mg/kg	0.000152 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.8	mg/kg		0.629	mg/kg	0.0000629 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.71	mg/kg		0.558	mg/kg	0.0000558 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.84	mg/kg		0.66	mg/kg	0.000066 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.25	mg/kg		0.196	mg/kg	0.0000196 %	✓	
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.87	mg/kg		0.684	mg/kg	0.0000684 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.62	mg/kg		0.487	mg/kg	0.0000487 %	✓	
35		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**
36		benzo[ghi]perylene		205-883-8	191-24-2		0.62	mg/kg		0.487	mg/kg	0.0000487 %	✓	
37		monohydric phenols			P1186		<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
											Total:	0.0463 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: 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.: 0.0114%)

Classification of sample: WS105-0.20 - 1.00-05/08/2024

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

Sample details

Sample name:
WS105-0.20 - 1.00-05/08/2024
Sample Depth:
0.20 - 1.00 m
Moisture content:
13.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		32 mg/kg	1.32	36.631 mg/kg	0.00366 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	19.008 mg/kg	0.0019 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		71 mg/kg	1.126	69.306 mg/kg	0.00693 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		21 mg/kg	1.273	23.17 mg/kg	0.00232 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	44 mg/kg		38.148 mg/kg	0.00381 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		30 mg/kg	1.785	46.433 mg/kg	0.00464 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		33 mg/kg	1.245	35.613 mg/kg	0.00356 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	pH			PH		7.7 pH		7.7 pH	7.7 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		0.14 mg/kg		0.121 mg/kg	0.0000121 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
15		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
16		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
17		phenanthrene				0.31	mg/kg		0.269	mg/kg	0.0000269 %	✓	
			201-581-5	85-01-8									
18		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
19		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
20		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
										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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS105-0.50 - 1.00-05/08/2024

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

Sample details

Sample name:
WS105-0.50 - 1.00-05/08/2024
Sample Depth:
0.50 - 1.00 m
Moisture content:
22.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 22.3% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				7 pH		7 pH	7pH		
				PH							
								Total:	0%		

Key

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

Classification of sample: WS106-0.30 - 0.60-05/08/2024

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

Sample details

Sample name:
WS106-0.30 - 0.60-05/08/2024
Sample Depth:
0.30 - 0.60 m
Moisture content:
18.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	17.196 mg/kg	0.00172 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32 mg/kg	1.462	38.071 mg/kg	0.00381 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	22.912 mg/kg	0.00229 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		42 mg/kg	1.273	43.507 mg/kg	0.00435 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	15 mg/kg		12.21 mg/kg	0.00122 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		33 mg/kg	1.785	47.954 mg/kg	0.0048 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		46 mg/kg	1.245	46.607 mg/kg	0.00466 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	pH			PH		8 pH		8 pH	8pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene	205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15		acenaphthene	201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
16		fluorene	201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
17		phenanthrene	201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
18		anthracene	204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
19		fluoranthene	205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
20		pyrene	204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
21		benzo[a]anthracene	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
22		chrysene	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
23		benzo[b]fluoranthene	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
24		benzo[k]fluoranthene	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
25		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
26		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
27		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
28		benzo[ghi]perylene	205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
										Total:	0.0238 %		

Key

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

Classification of sample: WS108-0.05 - 0.40-05/08/2024

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

Sample details

Sample name:
WS108-0.05 - 0.40-05/08/2024
Sample Depth:
0.05 - 0.40 m
Moisture content:
9.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6	mg/kg	1.32	7.146	mg/kg	0.000715 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		9	mg/kg	1.462	11.865	mg/kg	0.00119 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7	mg/kg	1.126	7.109	mg/kg	0.000711 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		9	mg/kg	1.273	10.331	mg/kg	0.00103 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	6	mg/kg		5.412	mg/kg	0.000541 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		10	mg/kg	1.785	16.102	mg/kg	0.00161 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		19	mg/kg	1.245	21.332	mg/kg	0.00213 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<**LOD**
12	pH			PH		7.8	pH		7.8	pH	7.8 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene	205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15		acenaphthene	201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
16		fluorene	201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
17		phenanthrene	201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
18		anthracene	204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
19		fluoranthene	205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
20		pyrene	204-927-3	129-00-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
21		benzo[a]anthracene	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
22		chrysene	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
23		benzo[b]fluoranthene	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
24		benzo[k]fluoranthene	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
25		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
26		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
27		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
28		benzo[ghi]perylene	205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
										Total:	0.00891 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS109-0.10 - 0.80-06/08/2024

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

Sample details

Sample name:
WS109-0.10 - 0.80-06/08/2024
Sample Depth:
0.10 - 0.80 m
Moisture content:
7.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	7.336 mg/kg	0.000734 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		6 mg/kg	1.462	8.12 mg/kg	0.000812 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5 mg/kg	1.126	5.213 mg/kg	0.000521 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		8 mg/kg	1.273	9.427 mg/kg	0.000943 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	4 mg/kg		3.704 mg/kg	0.00037 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		7 mg/kg	1.785	11.572 mg/kg	0.00116 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		9 mg/kg	1.245	10.373 mg/kg	0.00104 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<**LOD**
13	TPH (C6 to C40) petroleum group			TPH		491 mg/kg		454.666 mg/kg	0.0455 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
20		pH			PH		7.4	pH		7.4	pH	7.4 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		0.17	mg/kg		0.157	mg/kg	0.0000157 %	✓	
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28		pyrene		204-927-3	129-00-0		0.17	mg/kg		0.157	mg/kg	0.0000157 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33		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
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35		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
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
37		monohydric phenols			P1186		<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
											Total:	0.0527 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: 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.: 0.0455%)

Classification of sample: WS110-0.12 - 0.60-06/08/2024

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

Sample details

Sample name:
WS110-0.12 - 0.60-06/08/2024
Sample Depth:
0.12 - 0.60 m
Moisture content:
12.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		28 mg/kg	1.32	32.274 mg/kg	0.00323 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.299 mg/kg	0.0000299 %	✓	
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17 mg/kg	1.462	21.691 mg/kg	0.00217 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		60 mg/kg	1.126	58.974 mg/kg	0.0059 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		28 mg/kg	1.273	31.107 mg/kg	0.00311 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	48 mg/kg		41.904 mg/kg	0.00419 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		33 mg/kg	1.785	51.429 mg/kg	0.00514 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		54 mg/kg	1.245	58.678 mg/kg	0.00587 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<**LOD**
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				7.1	pH		7.1	pH	7.1 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				0.28	mg/kg		0.244	mg/kg	0.0000244 %	✓	
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
				P1186									
										Total:	0.0355 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS110-0.60 - 1.00-06/08/2024

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

Sample details

Sample name:
WS110-0.60 - 1.00-06/08/2024
Sample Depth:
0.60 - 1.00 m
Moisture content:
15.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15.6% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				7.4 pH		7.4 pH	7.4 pH		
				PH							
								Total:	0%		

Key

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

Classification of sample: WS111-0.00 - 0.40-06/08/2024

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

Sample details

Sample name:
WS111-0.00 - 0.40-06/08/2024
Sample Depth:
0.00 - 0.40 m
Moisture content:
15.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	14.452 mg/kg	0.00145 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.289 mg/kg	0.0000289 %	✓	
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26 mg/kg	1.462	31.996 mg/kg	0.0032 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29 mg/kg	1.126	27.492 mg/kg	0.00275 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		22 mg/kg	1.273	23.574 mg/kg	0.00236 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	67 mg/kg		56.414 mg/kg	0.00564 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		33 mg/kg	1.785	49.603 mg/kg	0.00496 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		69 mg/kg	1.245	72.315 mg/kg	0.00723 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	pH			PH		7.4 pH		7.4 pH	7.4 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
15		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
16		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
17		phenanthrene				0.81	mg/kg		0.682	mg/kg	0.0000682 %	✓	
			201-581-5	85-01-8									
18		anthracene				0.18	mg/kg		0.152	mg/kg	0.0000152 %	✓	
			204-371-1	120-12-7									
19		fluoranthene				1.19	mg/kg		1.002	mg/kg	0.0001 %	✓	
			205-912-4	206-44-0									
20		pyrene				1.09	mg/kg		0.918	mg/kg	0.0000918 %	✓	
			204-927-3	129-00-0									
21		benzo[a]anthracene				0.51	mg/kg		0.429	mg/kg	0.0000429 %	✓	
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				0.57	mg/kg		0.48	mg/kg	0.000048 %	✓	
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				0.52	mg/kg		0.438	mg/kg	0.0000438 %	✓	
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				0.12	mg/kg		0.101	mg/kg	0.0000101 %	✓	
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.46	mg/kg		0.387	mg/kg	0.0000387 %	✓	
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				0.24	mg/kg		0.202	mg/kg	0.0000202 %	✓	
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				0.21	mg/kg		0.177	mg/kg	0.0000177 %	✓	
			205-883-8	191-24-2									
										Total:	0.029 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS112-0.00 - 0.50-06/08/2024

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

Sample details

Sample name:
WS112-0.00 - 0.50-06/08/2024
Sample Depth:
0.00 - 0.50 m
Moisture content:
17.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.7% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9	mg/kg	1.32	9.78	mg/kg	0.000978 %	✓	
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<**LOD**
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29	mg/kg	1.462	34.883	mg/kg	0.00349 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	18.532	mg/kg	0.00185 %	✓	
5		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
6		nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		22	mg/kg	1.273	23.042	mg/kg	0.0023 %	✓	
7		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	28	mg/kg		23.044	mg/kg	0.0023 %	✓	
8		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<**LOD**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		49	mg/kg	1.245	50.196	mg/kg	0.00502 %	✓	
10		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<**LOD**
11		boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
12		TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<**LOD**
13		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
15		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
16		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<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				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
19		pH			PH		7.3	pH		7.3	pH	7.3 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.24	mg/kg		0.198	mg/kg	0.0000198 %	✓	
25		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.45	mg/kg		0.37	mg/kg	0.000037 %	✓	
27		pyrene		204-927-3	129-00-0		0.44	mg/kg		0.362	mg/kg	0.0000362 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.23	mg/kg		0.189	mg/kg	0.0000189 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.24	mg/kg		0.198	mg/kg	0.0000198 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.22	mg/kg		0.181	mg/kg	0.0000181 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.21	mg/kg		0.173	mg/kg	0.0000173 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
34		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
35		benzo[ghi]perylene		205-883-8	191-24-2		0.12	mg/kg		0.0988	mg/kg	0.00000988 %	✓	
36		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
37		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
38		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
40		tetrachloroethylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
41		carbon tetrachloride; tetrachloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
42		trichloroethylene; trichloroethene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
43		hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
44		polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
45		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
46		bromoform; tribromomethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
47		dibromomethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
48		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
				P1186									
49		dichlorodifluoromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			200-893-9	75-71-8									
50		chloroethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
51		trichlorofluoromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			200-892-3	75-69-4									
52		1,1-dichloroethylene; vinylidene chloride				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
53		2,2-dichloropropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			209-832-0	594-20-7									
54		chloroform; trichloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
55		bromochloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			200-826-3	74-97-5									
56		1,1,1-trichloroethane; methyl chloroform				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
57		1,1-dichloropropene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
58		1,2-dichloropropane; propylene dichloride				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
59		bromodichloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			200-856-7	75-27-4									
60		2-methoxy-2-methylbutane; tert-amyl methyl ether				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-213-00-2	213-611-4	994-05-8									
61		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
62		trans-1,3-dichloropropene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			431-460-4	10061-02-6									
63		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									
64		1,3-dichloropropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			205-531-3	142-28-9									
65		dibromochloromethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			204-704-0	124-48-1									
66		1,2-dibromoethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
67		chlorobenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
68		1,1,1,2-tetrachloroethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			211-135-1	630-20-6									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
69		styrene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
70		cumene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-024-00-X	202-704-5	98-82-8									
71		1,1,2,2-tetrachloroethane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
72		1,2,3-trichloropropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
73		propylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
74		bromobenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
75		mesitylene; 1,3,5-trimethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
76		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
77		1,2,4-trimethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
78		sec-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			205-227-0	135-98-8									
79		1-isopropyl-4-methylbenzene; p-cymene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
80		1,3-dichlorbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
81		1,4-dichlorobenzene; p-dichlorobenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
82		n-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			203-209-7	104-51-8									
83		1,2-dichlorobenzene; o-dichlorobenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
84		1,2-dibromo-3-chloropropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
85		hexachlorobutadiene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			201-765-5	87-68-3									
86		1,2,4-trichlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
87		2-nitrophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-857-5	88-75-5									
88		nitrobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
89		bis(2-chloroethoxy)methane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			203-920-2	111-91-1									
90		bis(2-chloroethyl) ether				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
91		2,4-dichlorophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
92		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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]									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<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]									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
94		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
95		hexachloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			200-666-4	67-72-1									
96		2,4,6-trichlorophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
97		2,4,5-trichlorophenol				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
98		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
99		2-methyl naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			202-078-3	91-57-6									
100		hexachlorocyclopentadiene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									
101		2,6-dinitrotoluene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
102		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
103		2-chloronaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			202-079-9	91-58-7									
104		4-chloroaniline				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
105		4-nitrophenol; p-nitrophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
106		4-chlorophenylphenylether				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			230-281-7	7005-72-3									
107		4-bromophenylphenylether				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			202-952-4	101-55-3									
108		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
109		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
110		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-071-3	132-64-9									
111		azobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
112		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
113		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-696-0	86-74-8									
114		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
115		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
116		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
117		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**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]									
118		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**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
		EU CLP index number	EC Number	CAS Number							
119		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.25 mg/kg		<0.25 mg/kg	<0.000025 %		<**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]							
120		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
		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]							
								Total:	0.0224 %		

Key

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

Classification of sample: WS101B-0.10 - 0.50-06/08/2024

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

Sample details

Sample name:
WS101B-0.10 - 0.50-06/08/2024
Sample Depth:
0.10 - 0.50 m
Moisture content:
5.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

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"

Hazard Statements hit:

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

Because of determinand:

ethylbenzene: (conc.: 1.88e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.111%)
xylene: (conc.: 3.77e-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.: 0.111%)

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.: 0.111%)

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				7	mg/kg	1.32	8.706	mg/kg	0.000871 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.2	mg/kg	1.142	0.215	mg/kg	0.0000215 %	✓	
		048-002-00-0	215-146-2	1306-19-0									

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		12	mg/kg	1.462	16.521	mg/kg	0.00165 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25	mg/kg	1.126	26.515	mg/kg	0.00265 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		11	mg/kg	1.273	13.187	mg/kg	0.00132 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	47	mg/kg		44.274	mg/kg	0.00443 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2	mg/kg	1.405	<2.81	mg/kg	<0.000281 %		<LOD
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		16	mg/kg	1.785	26.906	mg/kg	0.00269 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		99	mg/kg	1.245	116.08	mg/kg	0.0116 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<LOD
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.2	mg/kg	3.22	3.64	mg/kg	0.000364 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		1175	mg/kg		1106.85	mg/kg	0.111 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17	ethylbenzene	601-023-00-4	202-849-4	100-41-4		0.002	mg/kg		0.0018	mg/kg	0.000000188 %	✓	
18	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.004	mg/kg		0.0037	mg/kg	0.000000377 %	✓	
19	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
20	pH			PH		8.9	pH		8.9	pH	8.9 pH		
21	naphthalene	601-052-00-2	202-049-5	91-20-3		0.15	mg/kg		0.141	mg/kg	0.0000141 %	✓	
22	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	acenaphthene		201-469-6	83-32-9		0.35	mg/kg		0.33	mg/kg	0.000033 %	✓	
24	fluorene		201-695-5	86-73-7		0.27	mg/kg		0.254	mg/kg	0.0000254 %	✓	
25	phenanthrene		201-581-5	85-01-8		1.87	mg/kg		1.762	mg/kg	0.000176 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
26		anthracene				0.45	mg/kg		0.424	mg/kg	0.0000424 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				4.32	mg/kg		4.069	mg/kg	0.000407 %	✓	
			205-912-4	206-44-0									
28		pyrene				3.86	mg/kg		3.636	mg/kg	0.000364 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				2.22	mg/kg		2.091	mg/kg	0.000209 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				1.81	mg/kg		1.705	mg/kg	0.000171 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				2.83	mg/kg		2.666	mg/kg	0.000267 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				1.03	mg/kg		0.97	mg/kg	0.000097 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				3	mg/kg		2.826	mg/kg	0.000283 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				1.73	mg/kg		1.63	mg/kg	0.000163 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				0.31	mg/kg		0.292	mg/kg	0.0000292 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				1.66	mg/kg		1.564	mg/kg	0.000156 %	✓	
			205-883-8	191-24-2									
37		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
				P1186									
										Total:	0.14 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Concentrations at less than 1.0% are "unlikely to be flammable". Flammability of soils is unlikely to result in a hazardous classification in soils (AGS Waste Classification – A Practitioner's Guide).

Hazard Statements hit:

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

Because of determinand:

ethylbenzene: (conc.: 1.88e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.111%)
xylene: (conc.: 3.77e-07%)

Classification of sample: WS107-0.70 - 1.00-06/08/2024

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

Sample details

Sample name:
WS107-0.70 - 1.00-06/08/2024
Sample Depth:
0.70 - 1.00 m
Moisture content:
19.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7 mg/kg	1.32	7.459 mg/kg	0.000746 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	36.564 mg/kg	0.00366 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11 mg/kg	1.126	9.995 mg/kg	0.000999 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		23 mg/kg	1.273	23.621 mg/kg	0.00236 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	12 mg/kg		9.684 mg/kg	0.000968 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		40 mg/kg	1.785	57.626 mg/kg	0.00576 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		38 mg/kg	1.245	38.17 mg/kg	0.00382 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<**LOD**
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				7.5	pH		7.5	pH	7.5 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
				P1186									
										Total:	0.0242 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS113A-0.50 - 1.00-06/08/2024

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

Sample details

Sample name:
WS113A-0.50 - 1.00-06/08/2024
Sample Depth:
0.50 - 1.00 m
Moisture content:
15.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	8.883 mg/kg	0.000888 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28 mg/kg	1.462	34.417 mg/kg	0.00344 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18 mg/kg	1.126	17.044 mg/kg	0.0017 %	✓	
5	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
6	nickel { nickel(II) oxide (nickel monoxide) }	028-003-00-2	215-215-7 [1] 234-323-5 [2] - [3]	1313-99-1 [1] 11099-02-8 [2] 34492-97-2 [3]		30 mg/kg	1.273	32.108 mg/kg	0.00321 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	9 mg/kg		7.569 mg/kg	0.000757 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<**LOD**
9	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		31 mg/kg	1.785	46.542 mg/kg	0.00465 %	✓	
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		40 mg/kg	1.245	41.872 mg/kg	0.00419 %	✓	
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
12	pH			PH		7.6 pH		7.6 pH	7.6 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
15		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
16		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
17		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
18		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
19		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
20		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0198 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

pH (CAS Number: PH)

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

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

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

GB MCL index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

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

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- **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

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

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

- **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

2,2-dichloropropane (EC Number: 209-832-0, CAS Number: 594-20-7)

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: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

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

- **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

- **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

- **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-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

- **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

- **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

- **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

- **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

- **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

- **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

- **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides.

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel(II) oxide (nickel monoxide)}

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Most conservative species.

zinc {zinc oxide}

Worst case compound based on absence of CrVI and assumed metal oxides from a combustion, ash based source.

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

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass.

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

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide]

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.267.6248.11446 (23 Sep 2024)
HazWasteOnline Database: 2024.267.6248.11446 (23 Sep 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

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