



**GEO-ENVIRONMENTAL SITE
ASSESSMENT REPORT**

**JAGUAR LAND ROVER
SPEKE BOULEVARD
HALEWOOD
LIVERPOOL
L24 9BJ**

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Executive Summary

The recent intrusive ground investigation has proven that Made Ground is present beneath the site with a variable thickness of between 0.50m and 1.40m (locally to more than 3.0m where attenuation tanks were found during site preparation works).

A total of 15 no. soil samples were taken and tested for a range of chemical parameters. Dibenzo(a,h)anthracene has been detected in the Made Ground beneath the site at concentrations in excess of the human health commercial GAC. However, generic quantitative risk assessments have shown that based on the proposed end use at the site, it will not present a risk to any of the receptors identified in the preliminary conceptual site model, if it remains present beneath the site following redevelopment as there is no pathway potential.

A total of 7 no. groundwater samples were taken and tested for a range of chemical parameters. Although exceedances of the UK Drinking Water Standards and the Freshwater EQS have been detected, the risk to the identified receptors is considered to be negligible due to the presence of impermeable diamicton deposits which underlies the site and the surrounding area and would restrict contaminant movement.

The site can be classified as Characteristic Situation 1 (CS1; very low risk) in terms of ground gases and therefore, no gas protection measures are deemed necessary.

If new water supply pipes are to be installed for the proposed development, then it is recommended that discussions are undertaken with the local water supply company to confirm their requirements.

Given the variable thickness of Made Ground encountered beneath the site (up to 3.0m in the area of the drainage crates) and localised soft spots, it is recommended that a piled foundation solution is used.

The ground would be suitable for a driven or bored cast in-situ piled foundations. External dado walls could be supported off ground beams spanning between column positions.

It is recommended that the advice of a specialist piling contractor is sought to provide information on the type of pile and pile installation method that would be appropriate using proprietary design tools. Appropriate test pile and works pile testing procedures will need to be established.

Deep excavations in Made Ground (c. >1.5m) for services and/or utilities may require temporary support, or battered to a stable working angle to enable safe working.

Specialist structural engineers will be required to prepare schedules for column loads. This information, together with these geotechnical design data, should then be sent to a specialist ground improvement and/or piling contractor to enable them to derive suitable proprietary designs.

The results from the chemical laboratory sulphate and pH analysis for the site indicate a Design Sulphate Class of DS-2 and an Aggressive Chemical Environment for Concrete (ACEC) class of AC-2.

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1 Introduction

1.1 Background

EnviroSolution Ltd was commissioned to undertake a Geo-Environmental Site Assessment at the Jaguar Land Rover factory in Halewood. This work was required to inform the design of the proposed south apron extension.

1.2 Objectives

The objectives of the ground investigation were:

1. To obtain information on the ground conditions beneath the site.
2. To obtain information to inform foundation design.
3. To confirm the contamination status of the ground beneath the site.
4. To identify any environmental risks and liabilities associated with ground conditions at the site.
5. To identify the requirements for any additional works prior to site development (e.g. further ground investigation or remedial works).

1.3 Scope of Work

- An intrusive ground investigation.
- Generic quantitative risk assessments utilising the ground investigation data in line with industry approved guidelines.
- A Ground Gas Risk Assessment
- A geotechnical appraisal of the ground conditions to inform foundation design.

The scope of work was developed in accordance with the Environment Agency of England and Wales and Department for Environment Food and Rural Affairs (DEFRA) document Environment Agency (2020) Land Contamination Risk Management Report LCRM “How to assess and manage the risks from land contamination” and BS10175:2011+A2:2017 ‘Investigation of Potentially Contaminated Sites – Code of Practice’.

1.4 Site Location

The site is located at the South Apron, Jaguar Land Rover, Speke Boulevard, Halewood, Liverpool, L24 9BJ. The national grid reference for the approximate site centre is GR: 344570 383690.

The site location is shown on **Figure 1** in **Appendix A**.

1.5 Site Description

The Jaguar Land Rover manufacturing takes place in Halewood, north of Speke Boulevard. The total area of the plant covers in excess of 40 ha.

The proposed development site is located along the southern boundary of the site and covers an area of approximately 16,000m² (1.6 ha).

At the time of the site investigation (June 2022) the site was vacant and was used as a vehicle storage area. The entire site area was covered by impermeable hardstanding. A system of surface water drainage was present across the site.

The topography of the site is flat and level with little change in elevation.

The site is bounded by South Road to the south and east, a car park to the west and the factory/ warehouse to the north.

Following completion of the site investigation, demolition contractors removed the concrete hardstanding at the site (in August 2022), reducing the site levels by approximately 300mm. During this work drainage crates were uncovered in the south-eastern corner of the site.

Photographs of the site prior, during and after the site investigation are included in **Appendix B**.

The existing site plan is shown on **Figure 2** which is included in **Appendix A**.

1.6 Development Proposals

It is understood that the development plans could include the construction of a large two-storey production facility to the south of the existing production warehouse. Plans include access roads and external loading bays.

The proposed site plan is shown on **Figures 3 and 4** which are included in **Appendix A**.

2 Ground Investigation Methodology

2.1 Intrusive Field Works

The intrusive investigation works were undertaken by EnviroSolution Ltd between the dates of 27th of June and the 3rd of July. The work comprised the following:

- The drilling of 10 no. window sample boreholes (designated as WS1 – WS10) to depths of up to 5.0m below ground level (bgl).
- The drilling of 3 no. cable percussion boreholes (designated as CP1 – CP3) to depths of up to 20m bgl.
- The excavation of 3 no. foundation pits (designated as TP1 – TP3) to depths of up to 1.10m bgl.
- Dynamic probing in 3 no. locations (designated as DP5, DP6 and DP9).
- The installation of 13 no. gas and groundwater monitoring wells.
- Geotechnical logging of ground conditions at each location.
- In-situ geotechnical testing within boreholes.
- Collection of representative soil samples from boreholes for subsequent chemical and geotechnical laboratory analysis.

The exploratory hole locations are shown on **Figure 5** in **Appendix A**. The boreholes were located on an evenly spaced grid (where access allowed) to ensure full site coverage. Borehole WS10 encountered a buried power cable and was terminated at 0.90m. Borehole WS10 was renamed WS10A and moved approximately 3.0m south of its original location.

2.2 Soil Sampling Methodology

The exploratory holes were logged in accordance with the requirements of BS 5930: 2015+A1:2020 and BS EN 14688 Pts 1&2. Visual and olfactory evidence of contamination was noted if encountered. These observations were used to aid scheduling of samples for chemical laboratory analysis. Soil samples were collected at distinct changes in lithology, or on the basis of field observations.

Samples were collected with a clean trowel or by hand (using dedicated nitrile gloves for each sampling location). Samples were placed immediately into laboratory supplied sampling containers, specific to the type of analyses required. All sample containers were sealed and labelled with a unique location identity, depth and date of sampling.

2.3 Gas and Groundwater Monitoring

A total of 13 no. combined gas and groundwater monitoring standpipes were installed in all boreholes during the intrusive ground investigation. A total of 4 no. rounds of gas and groundwater monitoring have been completed between the 13th of July and the 25th of August 2022.

The following parameters were measured during each visit:

- Methane % (v/v)

- Carbon dioxide % (v/v)
- Oxygen % (v/v),
- Hydrogen sulphide (ppm)
- Flow rate (l/hr).
- Atmospheric pressure (mbar)
- Groundwater level and borehole depth (m bgl)

During the first monitoring visit, representative groundwater samples were collected from boreholes WS1, WS2, WS3, CP1, CP2, CP3 and WS10.

2.4 Laboratory Analysis

2.4.1 Chemical Analysis

All soil samples were transported in cool boxes at the end of the day under a chain of custody regime to Chemtest, who are a UKAS accredited laboratory. Analysis was conducted to MCerts standards where applicable.

Chemical analysis was scheduled on a total of 15 no. soil samples (10 no. Made Ground and 5 no. natural ground) for a range of chemical parameters including: Toxic 9 metals, pH, asbestos ID, asbestos quantification, volatile and semi-volatile organic compounds (VOCs and SVOCs) and TPH criteria working group. Additionally, WAC testing was conducted on 3 no. Made Ground samples and 3 no. natural ground samples.

Chemical analysis was scheduled on a total of 7 no. groundwater samples for a range of chemical parameters including: Toxic 9 metals, VOCs, SVOCs, TPH CWG, sulphates, hardness and pH.

2.4.2 QA/QC

Field methods and procedures complied with accepted industry standards (BS10175:2011). These standards include the use of specified sample container types and agreed sampling decontamination procedures.

All samples were transported from the site to the analytical laboratory under a chain of custody regime within cool boxes containing ice packs. All analytical results were subjected to a QA/QC validation check to ensure they met the Laboratory's target criteria.

2.4.3 Geotechnical Analysis

A programme of laboratory testing was undertaken in accordance with BS:1377 (1990) 'Methods of Test for Soils for Civil Engineering Purposes'. The following tests being carried out:

Table 1: BS:1377 Testing

BS Test No.	Description
Part 2: 3.2.3.3	Moisture Content
Part 3: 5.2	Sulphate Content, pH Value

BS Test No.	Description
Part 2: 5.4	Plasticity
Part 7: 8	Unconsolidated Undrained Triaxial
Part 2: 7.2	Bulk Density
Part 5: 3	One Dimensional Consolidation

The following in-situ and laboratory testing outside the scope of BS:1377 was also undertaken:

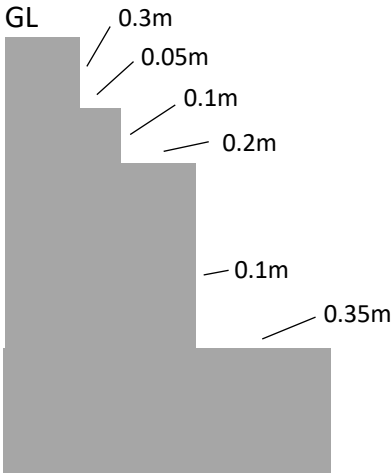
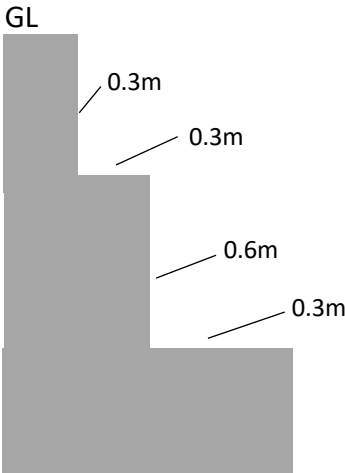
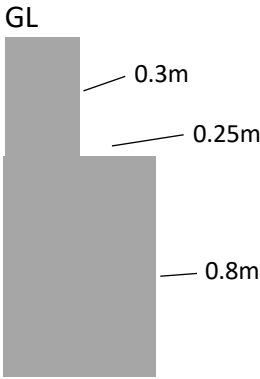
Table 2: Non-BS:1377 Testing

Standard or Methodology	Test Description
BRE Special Digest 1	Total Sulphate, Aqueous Extract Sulphate, Total Sulphur, pH

3 Foundation Inspection Pits

A total of 3 no. hand excavated foundation inspection pits (designated as TP1 – TP3) were excavated along the southern perimeter of the existing building. The locations are shown on **Figure 5** in **Appendix A**. The photographs are shown in **Appendix B**.

The inspection consisted of a visual examination of the accessible portion of the foundation slabs where possible and measurements of foundation dimensions. The dimensions are presented below:

TP1	TP2
 Base not reached, unable to excavate further due to depth	 Base not reached, unable to excavate further due to depth
TP3	
 Base not reached, unable to excavate further due to depth	

4 Ground Conditions

4.1 Made Ground

Made Ground was encountered in all of the exploratory boreholes beneath a 0.20 – 0.30m thick reinforced slab of concrete. The Made Ground ranged in thickness between 0.50m and 1.40m and was generally thickest beneath the northern half of the site.

The Made Ground generally consists of compact dark grey sandy angular fine to medium gravel with variable inclusions of ash, sandstone, burnt shale, brick, ceramic and timber. A black relic tarmac road surface (c. 100mm thick) was recorded in the northern half of the site in boreholes WS1, WS2, WS8, WS10 and CP1 at depths of between 0.40m and 0.80m bgl.

A buried power cable was recorded in WS10. This borehole was terminated and moved c. 3m southward and re-drilled as WS10A.

Concrete removal works during August 2022 uncovered drainage crates located in the south-eastern corner of the site. The crates were recorded to extend to c. 3.0m bgl in this location.

The approximate locations of the buried road surface and the drainage crates are shown in **Figure 6**.

4.2 Diamicton

Diamicton deposits were encountered in all of the exploratory boreholes at the site. The diamicton generally consists of soft becoming firm and firm to stiff brown sandy gravelly clay with occasional thin layers of soft organic very sandy clays or fine sand and cobbles of sandstone.

Uncorrected SPT N values recorded in the diamicton generally ranged between 8 and 28 which indicates a low, becoming high strength clay with an approximate undrained shear strength range of between 20kN/m² and 140kN/m² using the general approximation of:

Undrained shear strength = $N \times 5$ (after Stroud, 1974).

The diamicton shows an increasing strength with depth. Based on these results, then it is considered that a Characteristic Shear Strength of 60kN/m² can be adopted for shallow foundation design. Foundation design options are discussed further in Section 5.1.

4.3 Bedrock

Bedrock was not encountered during the drilling works to a depth of 20.0m bgl.

The recorded borehole logs are shown in **Appendix C** and **Appendix D**.

4.4 Groundwater

Groundwater inflows were recorded during the investigation in 8 no. boreholes at depths of between 1.20m and 6.0m bgl.

4.5 Ground Gas

Ground gases including methane and carbon dioxide have been detected in both the Made Ground and natural ground deposits beneath the site. Monitoring records are included in **Appendix G** and the data is summarised in Table 3 below.

Table 3: Monitoring Summary

Borehole ID	Response Zone	Highest Detected Flow Rate (l/hr)	CH4 Range (%v/v)	CO2 Range (%v/v)	O2 Range (%v/v)
WS1	Natural Ground	0.4	-0.2 – 0.0	0.0 – 0.1	20.0 – 21.1
WS2	Natural Ground	0.3	-0.1 – 0.0	0.0 – 0.4	19.4 – 21.1
WS3	Natural Ground	0.2	-0.1 – 0.0	0.1	20.1 – 20.9
WS4	Natural Ground	0.0	0.3	0.0	20.2
WS5	Natural Ground	0.0	0.1	0.0	19.9 – 21.2
WS6	Natural Ground	0.0	-0.1 – 0.0	0.0 – 0.6	19.5 – 20.5
WS7	Natural Ground	2.8	-0.1 – 0.2	0.2 – 0.6	19.0 – 20.0
WS8	Made Ground and Natural Ground	0.1	-0.1 – 0.8	0.1 – 0.7	18.5 – 21.0
WS9	Natural Ground	0.0	0.0 – 5.7	0.5 – 6.0	6.0 – 16.7
WS10A	Made Ground and Natural Ground	0.0	-0.2 – 0.6	0.1 – 5.6	14.5 – 19.8
CP1	Natural Ground	0.0	0.3	0.5 – 1.3	9.2 – 14.5
CP2	Natural Ground	0.0	0.0	0.3 – 0.6	14.6 – 20.0
CP3	Natural Ground	0.0	0.0	0.8 – 6.4	12.7 – 20.3

An assessment of the ground gas monitoring results is provided in Section 7.

4.6 Chemical Analysis

The results of the chemical analysis are assessed in Section 7. A copy of the laboratory test certificates is included in **Appendix E**.

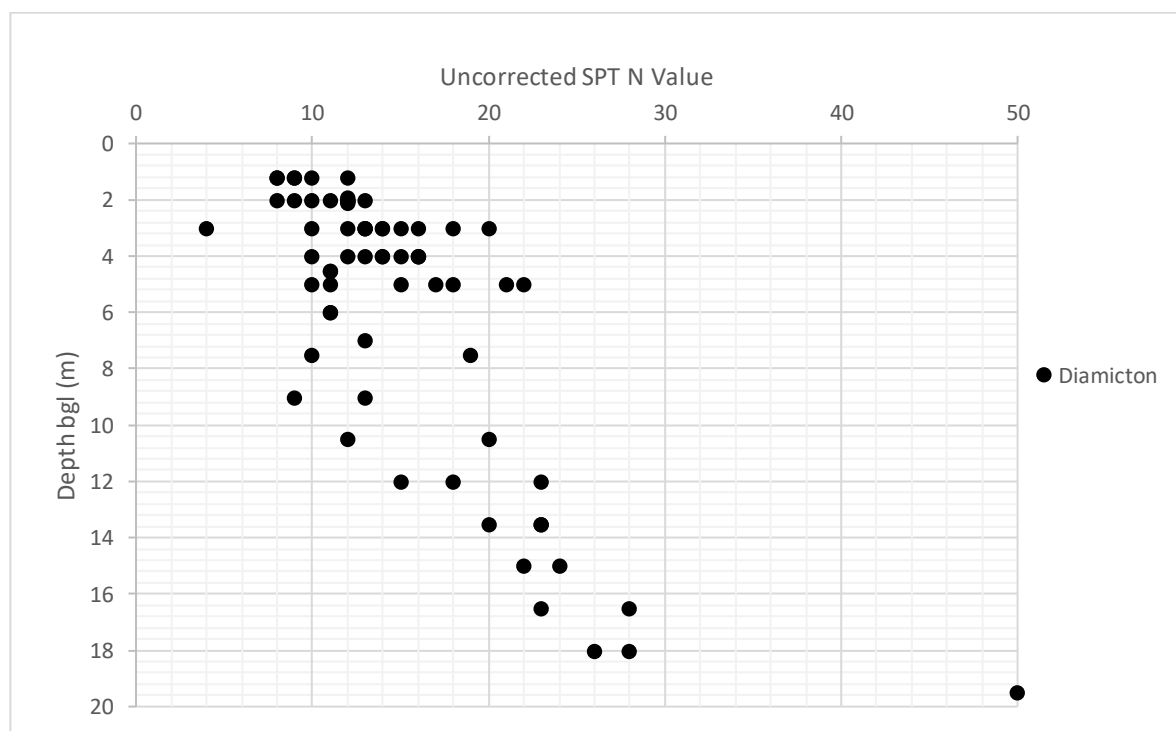
4.7 Geotechnical Model

Table 4: Geotechnical Model

Stratum	Depth to Base (m bgl)	Parameters/ Comments	
		Strength Parameters	Other Parameters/ Notes
Made Ground	0.50m – 1.40m	SPT N values 5 – 11	0.30m thick reinforced concrete overlying compact dark grey sandy angular fine to medium gravel with variable inclusions of ash, sandstone, burnt shale, brick, ceramic and timber. Relic tarmac road found in WS1, WS2, WS8 and WS10A. Locally deepened to about 3.0m in area of relic drainage crates.
Diamicton	Not Proven (More than 20.0m bgl)	SPT N values 8 – 28	Soft becoming firm and firm to stiff brown sandy gravelly clay with occasional thin layers of soft very sandy clays or fine sand and occasional cobbles of sandstone.

A total of 69 no. Standard Penetration Tests (SPTs) were performed during the drilling works. The results are recorded on the borehole logs at the appropriate depths and are displayed on the graph below.

SPT – Depth Plot



A total of 4 no. Dynamic Cone Penetrometer (DCP) tests (designated DCP1, DCP2, DCP4, DCP1C) were undertaken. The positions of the tests correlate to the position of the window sample boreholes shown on **Figure 4** in **Appendix A**.

The results of the DCP testing are included in **Appendix F**. The CBR values have been estimated using the following correlation:

$$\text{Log CBR} = 2.46 - 1.12 \log \text{DPI}$$

(after U.S. Army Engineers Waterways Experiment Station, 1992).

The results generally show the natural diamicton has a CBR range of between 4% and 20% and the Made Ground has a CBR range of between 30% and 100+%.

Testing in the Made Ground was limited due to service clearance requirements across the site.

4.8 Geotechnical Laboratory Results

4.8.1 Sulphate Testing

The results of chemical testing carried out in accordance with BRE Special Digest 1:2005 Concrete in Aggressive Ground are summarised as follows (See **Appendix H**):

Table 5: BRE Special Digest 1:2005 Test Results

Material	Property	No. of Tests	Range of Results	Characteristic Values (BRE Special Digest 1)	Design Sulphate Class and ACEC Class
Made Ground	Sulphate (SO ₄) by 2:1 water soil extract (mg/l)	4	42 – 740	740	DS-2 AC-2
	pH	4	8.3 – 11.9	8.3	
	Total Sulphur %	4	0.04 – 0.34	0.34	
	Chloride by 2:1 water soil extract (mg/l)	4	13 – 150	N/a	N/a
	Nitrate by 2:1 water soil extract (mg/l)	4	<1.0 – 7.5	N/a	N/a
Natural Ground	Sulphate (SO ₄) by 2:1 water soil extract (mg/l)	1	200	200	DS-1 AC-1
	pH	1	11.1	11.1	
	Total Sulphur %	1	0.06	0.06	
	Chloride by 2:1 water soil extract (mg/l)	1	180	N/a	N/a
	Nitrate by 2:1 water soil extract (mg/l)	1	12	N/a	N/a

4.8.2 Natural Moisture Content

Natural moisture content testing was carried out on a total of 7 no. soil samples. The results of the natural moisture content testing are shown in **Appendix H**.

The results show a range in natural moisture content of between 11% and 15%.

4.8.3 Plasticity Testing

The results of the plasticity testing are summarised below. A copy of the laboratory testing results is included in **Appendix H**.

Table 6: Plasticity Results

Sample	Plasticity Index	Modified Plasticity Index	Volume Change Potential
WS1 at 0.50m	13	13	Low
CP1 at 1.20m	12	12	Low
CP1 at 3.0m	12	12	Low
WS3 at 1.50m	12	12	Low
CP3 at 19.50m	19	19	Low

* Modified Plasticity Index for % passing 425µm sieve in accordance with NHBC Standards Chapter 4.2

The results show a low plasticity clay soil with a low volume change potential.

4.8.4 Unconsolidated Undrained Triaxial Results

Unconsolidated undrained triaxial testing was carried out on a total of 5 no. samples. The results of the triaxial testing are shown in **Appendix E** and summarised below:

Table 7: Triaxial Results

Sample	Undrained Shear Strength kN/m ²
CP1 at 5.0m	106 – 118
CP1 at 15.0m	44 – 59
CP2 at 3.0m	36 – 74
CP2 at 6.0m	66 – 81
CP3 at 9.0m	114 – 128

4.8.5 Bulk Density

Bulk density testing was carried out on a total of 7 no. samples. The results show an average bulk density (ρ) of 2.20 Mg/m³ for the diamicton deposits (see **Appendix H**).

4.8.6 Oedometer Results

Oedometer testing was carried out on a total of 2 no. samples from the boreholes. The results indicate results for volume compressibility of 0.067m²/MN and 0.13m²/MN over the 0 to 400kN/m² compression range.

5 Geotechnical Appraisal

5.1 Foundations

The Made Ground material would not be suitable for the construction of traditional shallow spread foundations due to the risk of unacceptable total and differential settlement occurring. This is due to the variable nature of the material and the lack of controlled compaction when the material was placed.

The underlying glacial diamicton deposits could be considered to be suitable bearing strata depending on the required column loads for the proposed new construction. A maximum allowable bearing pressure of about 100kN/m² is indicated at normal foundation depths to limit expected settlements to be within normal tolerances.

Where a required foundation pad dimension exceeds 3m, based on allowable bearing pressures and given the variable thickness of Made Ground encountered beneath the site (up to 3.0m in the area of the drainage crates) and localised soft spots, it is recommended that consideration is given to adopting a piled foundation solution.

The ground would be suitable for driven or bored cast in-situ piled foundations. External dado walls could be supported off ground beams spanning between column positions.

It is recommended that the advice of a specialist piling contractor is sought to provide information on the type of pile and pile installation method that would be appropriate using proprietary design tools. Appropriate test pile and works pile testing procedures will need to be established.

The floor slab will have to be ground bearing. It is understood that a design requirement has been set for a distributed working load of 57kN/m², which is onerous. Variations in near surface ground conditions across the site are such that differential long-term settlements cannot be ruled out. It is therefore considered that some form of ground improvement is applied beneath the proposed floor slab. This could include cement or lime stabilisation, or probably more reliably, by vibro-treatment. Again, it is recommended that consideration is given to seeking advice from specialist ground improvement contractors on this matter.

5.2 Excavations and Groundwater

Minor groundwater inflows were recorded during the investigation in 8 no. boreholes at depths of between 1.20m and 6.0m bgl. Subsequent groundwater monitoring over a period of three months has shown the groundwater to be as high as 0.33m bgl.

It is considered that these strikes probably represent pockets of water contained within more permeable portions of the diamicton rather than a more extensive water table.

Sump pumps should be adequate for dewatering shallow service excavations if required. Advice on groundwater control in construction is given in CIRIA Report C515: Groundwater Control Design and Practice.

Shallow service excavations within the Made Ground and soft diamicton could be relied upon to stand unsupported in the short-term only. Larger/ deeper excavations should be artificially supported or battered back to a safe angle of repose. Further advice on excavation support is given in CIRIA Document 97: Trenching Practice.

During redevelopment, an allowance should be made for the breaking out of buried obstructions including drains, buried road surfacing and drainage crates.

It is recommended that an adequate drainage system for surface water be installed by a competent contractor in order to prevent surface water ponding or collecting during and post construction which may lead to a deterioration of the founding strata. Where trench bottoms become excessively dried or softened due to rain or ground water, the excavation should be re-bottomed prior to concreting.

5.3 Concrete Design

The results from the chemical laboratory sulphate and pH analysis for the site indicate a Design Sulphate Class of DS-2 and an Aggressive Chemical Environment for Concrete (ACEC) class of AC-2.

5.4 Drainage

The ground investigation has shown that the site is underlain by cohesive clay deposits which are of low permeability and are generally not suitable for soakaways.

Groundwater monitoring at the site has additionally shown shallow groundwater beneath the site. It is therefore not recommended that soakaways are installed for the new development.

5.5 Ground Improvement

It is understood that the proposed slab will have an imposed load of 57 kN/m². Ground improvement techniques will therefore be required. Without treatment, the Made Ground would provide a poor sub-grade for the proposed floor slabs. Options exist to improve the sub-grade so that a suitable ground bearing floor slab can be constructed. These include the following:

Without treatment, the Made Ground would provide a poor sub-grade for the proposed floor slabs. Options exist to improve the sub-grade so that a suitable ground bearing floor slab can be constructed. These include the following:

- excavation of Made Ground and any unsuitable natural soils and replacement with suitable granular fill, compacted to an appropriate standard to a pre-arranged formation level;
- excavation of Made Ground and unsuitable natural soils followed by the separation of organic and other obvious unsuitable or oversize materials. Replacement of excavated material, with the inclusion of cement or lime to form a stabilised soil sub-grade;
- following excavation and removal of the current concrete hardstanding, scarification of the exposed sub-grade and incorporation of cement/lime. Recomposition of the treated ground to form a stabilised sub-grade;
- depending on the required floor slab loading, high floor slab loads could be accommodated by undertaking conventional dynamic compaction methods.

Any of the above options will require consultation with specialist ground stabilisation contractors and may require further ground investigation depending on the selected option.

6 Generic Quantitative Risk Assessment

6.1 Introduction

The quantitative risk assessment has been undertaken in general accordance with guidance issued by the Environment Agency and comprises a Generic Quantitative Risk Assessment (GQRA) which screens site concentrations against Generic Assessment Criteria (GAC) based on the Preliminary Risk Assessment (PRA) and associated Preliminary Conceptual Site Model. Where a concentration exceeds the GAC, the substance is confirmed as a Contaminant of Concern (CoC).

6.2 Human Health

6.2.1 Long Term Risks to Human Health

Taking into account the proposed land use at the site (i.e. production facility) GAC for commercial land use has been adopted as the GAC for this assessment.

The source of the GAC utilised for this assessment comprise the CLEA Soil Guideline Values (SGVs) and LQM 'Suitable 4 Use Levels' and Category 4 Screening Levels'.

Low level concentrations of heavy metals, TPH and SVOCs have been detected in the ground beneath the site. However, the majority of these are detected at concentrations below the GAC and therefore do not present a risk to the identified receptors.

Dibenzo(a,h)anthracene has been detected at concentrations in excess of the GAC in a single location (WS2 at 1.20m). See **Appendix I**. The location of the exceedance is positioned beneath proposed building footprint. This would effectively sever any exposure pathways via dermal contact to future site users. The exposure pathways via inhalation can be discounted on the basis that the contaminant has a low volatile potential. It is therefore considered that the covering of building and hardstanding will be sufficient to mitigate the exposure risk of the identified contaminants.

Asbestos was not detected in any of the exploratory borehole locations, thus indicating a low risk to future site users from asbestos in the shallow soils beneath the site.

6.2.2 Short Term Risks

During the redevelopment of the site, it will be necessary to implement measures to protect construction workers, and adjacent site users from the soil contaminants identified at the site. In addition, to ensure that they do not come into contact with contaminated soils and / or groundwater, construction workers and site visitors should wear appropriate personal protective equipment (PPE). Health and safety procedures would ensure that ingestion of contaminated soils and / or groundwater is avoided (e.g. by washing hands prior to eating, drinking and smoking).

6.3 Controlled Waters

The site is immediately underlain by superficial diamicton deposits which are shown to comprise mainly low permeability clays beneath the site to depths in excess of 20.0m bgl. It is considered that these will act as an impermeable barrier, preventing the migration of potentially contaminated groundwater to off-site controlled water receptors.

The site does not lie within a Source Protection Zone and there are no records of groundwater abstraction licenses held within a 1km radius of the site.

Ditton Brook is located 2.65km northeast of the site and Rams Brook is located 650m east of the site.

Groundwater analysis was completed as part of the recent investigation and a copy of the laboratory test certificates are included in **Appendix J**. In order to provide some significance on the groundwater laboratory test results, the data has been compared with GAC comprising the UK Drinking Water Standards and the Freshwater Environmental Quality Standard (EQS).

Groundwater samples were retrieved from boreholes WS1, WS2, WS3, CP1, CP2, CP3 and WS10 during the sampling visit.

The following substances were detected at concentrations in excess of Freshwater EQS:

- Chromium (WS3 and WS2)
- Copper (CP3, WS10A, WS3, WS2, WS1)
- Nickel (WS10A)

Although exceedances of copper, chromium and nickel have been detected, the exceedances are minimal and it is considered that the underlying diamicton will act as an impermeable barrier, preventing the migration of any contaminants of concern to the identified receptors. Additionally, no sensitive surface water features have been identified in close proximity to the site. Therefore, the risk from the contaminants of concern to the identified receptors is considered to be negligible.

Sulphate has been detected at concentrations in excess of the UK Drinking Water Standards in WS10A, WS2 and WS1. However, the risk from the contaminants of concern to the potable water supplies is deemed to be negligible. The site does not lie within a Source Protection Zone and there are no records of groundwater abstraction licenses held within a 1km radius of the site.

6.4 Buildings and Buried Services

It is considered that the foundations for the proposed development could be at risk of attack from any aggressive chemicals contained within the ground. In line with the recommendations with BRE Special Digest 1 (2005) "Concrete in Aggressive Ground", the Design Sulphate Class for the site is DS-2 and AC-2 as previously detailed in Section 4.8.1.

Plastic pipe materials are potentially vulnerable to attack from elevated levels of hydrocarbons, which can potentially lead to contamination of potable water supplies, and water supply companies require the risk to their workers from other contaminants in the ground to be assessed. Therefore, if new water supply pipes are to be installed on site, it is recommended that discussions are undertaken with the water supply company to confirm their requirements.

7 Ground Gas Risk Assessment

7.1 Introduction

Any material having an organic or biodegradable content e.g. organic clays, peat, coal mine workings and domestic refuse, will have a potential for the generation of the gases methane, carbon dioxide and hydrogen sulphide (H₂S) and for the depletion of oxygen, with associated hazards of explosion or asphyxiation.

The principal hazardous gas associated with the degradation of organic materials is methane. As methane is biochemically reactive it is readily oxidised to carbon dioxide under aerobic conditions, the presence of carbon dioxide is therefore often associated with elevated methane.

7.2 Assessment Guidelines

The gas risk assessment presented below has been undertaken in general accordance with accordance with the British Standard BS8485:2015, *“Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments”*. The guidance is written specifically for use by designers of gas protection measures relating to the development of a site. Reference has also been made to the CIRIA document C665:2007: *“Assessing Risks Posed by Hazardous Ground Gases to Buildings”*.

A semi-quantitative assessment method is proposed to include general classifications of risk obtained from a qualitative assessment undertaken for the site in question.

Gas concentrations and borehole flow rates are used to define a characteristic situation for a site based on the Gas Screening Value. The Gas Screening Value (in litres of gas per hour) for both methane and carbon dioxide is calculated as:

$$\text{Gas Screening Value (l/hr)} = \frac{\text{Gas Concentration (\%)} \times \text{Borehole Flow Rate (l/hr)}}{100}$$

These calculations are carried out on the worst-case gas concentrations and flow rates encountered on the site.

The characteristic situation is then determined from Table 8.5 of the CIRIA C665 report. This Characteristic Situation is then used to define the general scope of gas protection measures required. Guidance is given on the number of protective measures required and the scope of the measures for each situation.

7.3 Semi-Quantitative Risk Assessment

The gas screening value has been calculated for the site using the highest detected carbon dioxide concentration for the site of 6.4% in CP3 and highest gas flow reading of 2.8 l/hr in WS7. The gas screening value for the site has been calculated as 0.17 l/hr. This classifies the site as Characteristic Situation 1 (very low risk).

CIRIA C665 states in cases where carbon dioxide concentrations exceed 5% or methane concentrations exceed 1%, increasing the risk to Situation 2 (low risk) should be considered.

Boreholes with concentrations exceeding the threshold noted above include WS9, WS10A and CP3. In boreholes WS9 and CP3, a thin layer of relic topsoil/organic clay was described containing organic matter and a slight organic odour. This is interpreted to be the source of the ground gas detected. Given that the thickness of the organic soils was extremely limited, this is not considered to be significant.

The proposed development includes the construction of a two-storey production facility and is of a low sensitivity. The development proposals include a large open-plan facility with an approximate footprint of 14,000m². The building features several large roller doors to enable haulage vehicle access and is therefore considered to be well ventilated. See **Figure 4**.

It is therefore considered unnecessary to increase the risk to CS2 on this basis.

8 Waste Characterisation and Classification

8.1 Waste Classification

The soil data has been assessed to determine whether the soils beneath the site would be classified as hazardous or non-hazardous from a waste disposal point of view. Haz Waste Online has been used to complete this assessment.

The assessment identified that the majority of the Made Ground is likely to be classified as non-hazardous from a waste disposal point of view.

However, 3 no. samples taken from two locations (WS1 and WS2) can be classified as hazardous due to elevated pH and elevated concentrations of TPH. This is likely due to the presence of concrete and tarmac recorded at these locations.

The natural clay soils can be classified as non-hazardous.

A copy of the full detailed waste classification reports is included in **Appendix K**.

8.2 Waste Characterisation

To determine if the soils would be accepted at a licensed landfill for disposal, Waste Acceptance Criteria (WAC) testing was undertaken on 6 no. soil samples (3 no. Made Ground and 3 no. natural ground). The analytical results along with threshold comparison for the different landfill types are included.

The WAC data indicates that the Made Ground would be accepted at a hazardous waste landfill site without pre-treatment.

The natural ground would probably be accepted at an 'inert' waste facility.

A copy of the classification report and laboratory test certificates should be provided to the chosen waste contractor to confirm the disposal route.

9 Conclusions and Recommendations

9.1 Contaminated Land

The recent intrusive ground investigation has proven that Made Ground is present beneath the site with a variable thickness of between 0.50m and 1.40m (locally to more than 3.0m where attenuation tanks were found during site preparation works).

A total of 15 no. soil samples were taken and tested for a range of chemical parameters. Dibenzo(a,h)anthracene has been detected in the Made Ground beneath the site at concentrations in excess of the human health commercial GAC. However, generic quantitative risk assessments have shown that based on the proposed end use at the site, it will not present a risk to any of the receptors identified in the preliminary conceptual site model, if it remains present beneath the site following redevelopment as there is no pathway potential.

A total of 7 no. groundwater samples were taken and tested for a range of chemical parameters. Although exceedances of the UK Drinking Water Standards and the Freshwater EQS have been detected, the risk to the identified receptors is considered to be negligible due to the presence of impermeable diamicton deposits which underlies the site and the surrounding area and would restrict contaminant movement.

The site can be classified as Characteristic Situation 1 (CS1; very low risk) in terms of ground gases and therefore, no gas protection measures are deemed necessary.

If new water supply pipes are to be installed for the proposed development, then it is recommended that discussions are undertaken with the local water supply company to confirm their requirements.

9.2 Geotechnical

Given the variable thickness of Made Ground encountered beneath the site (up to 3.0m in the area of the drainage crates) and localised soft spots, it is recommended that a piled foundation solution is used.

The ground would be suitable for a driven or bored cast in-situ piled foundations. External dado walls could be supported off ground beams spanning between column positions.

It is recommended that the advice of a specialist piling contractor is sought to provide information on the type of pile and pile installation method that would be appropriate using proprietary design tools. Appropriate test pile and works pile testing procedures will need to be established.

Deep excavations in Made Ground (c. >1.5m) for services and/or utilities may require temporary support or battered to a stable working angle to enable safe working.

Specialist structural engineers will be required to prepare schedules for column loads. This information, together with these geotechnical design data, should then be sent to a specialist ground improvement and/or piling contractor to enable them to derive suitable proprietary designs.

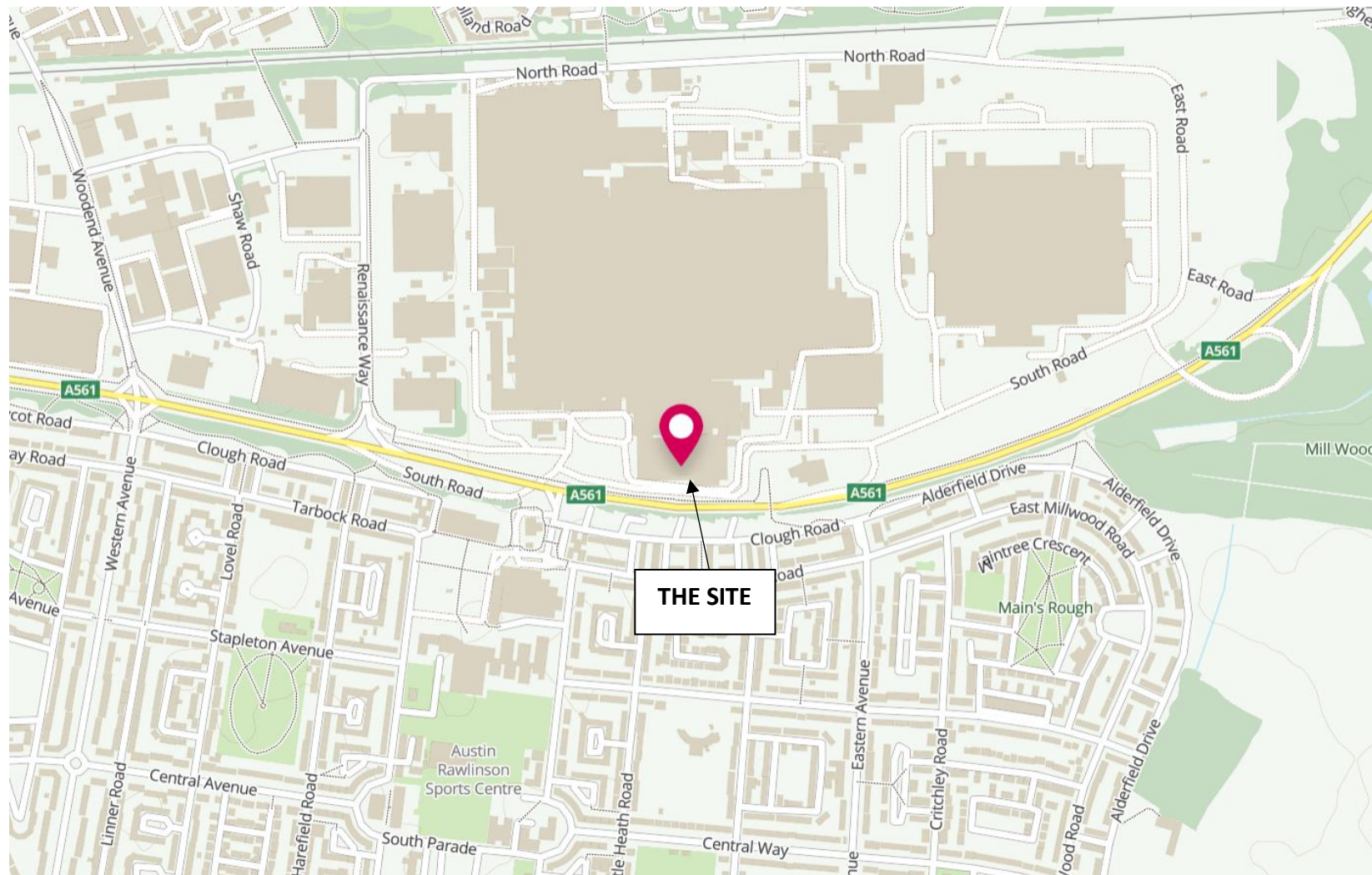
The results from the chemical laboratory sulphate and pH analysis for the site indicate a Design Sulphate Class of DS-2 and an Aggressive Chemical Environment for Concrete (ACEC) class of AC-2.

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APPENDICES

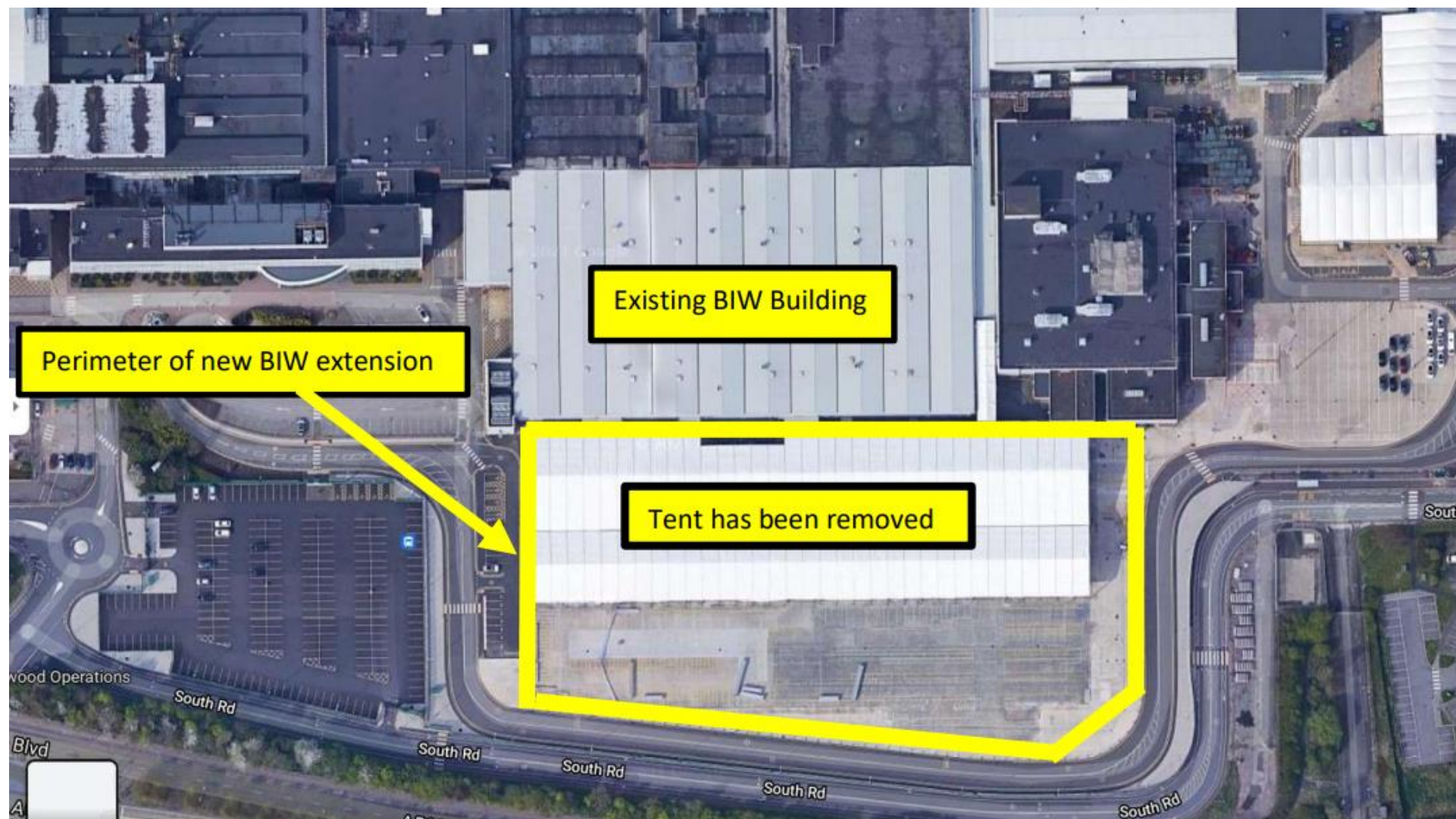
Appendix A – Site Location and Site Plan



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Site Location Map

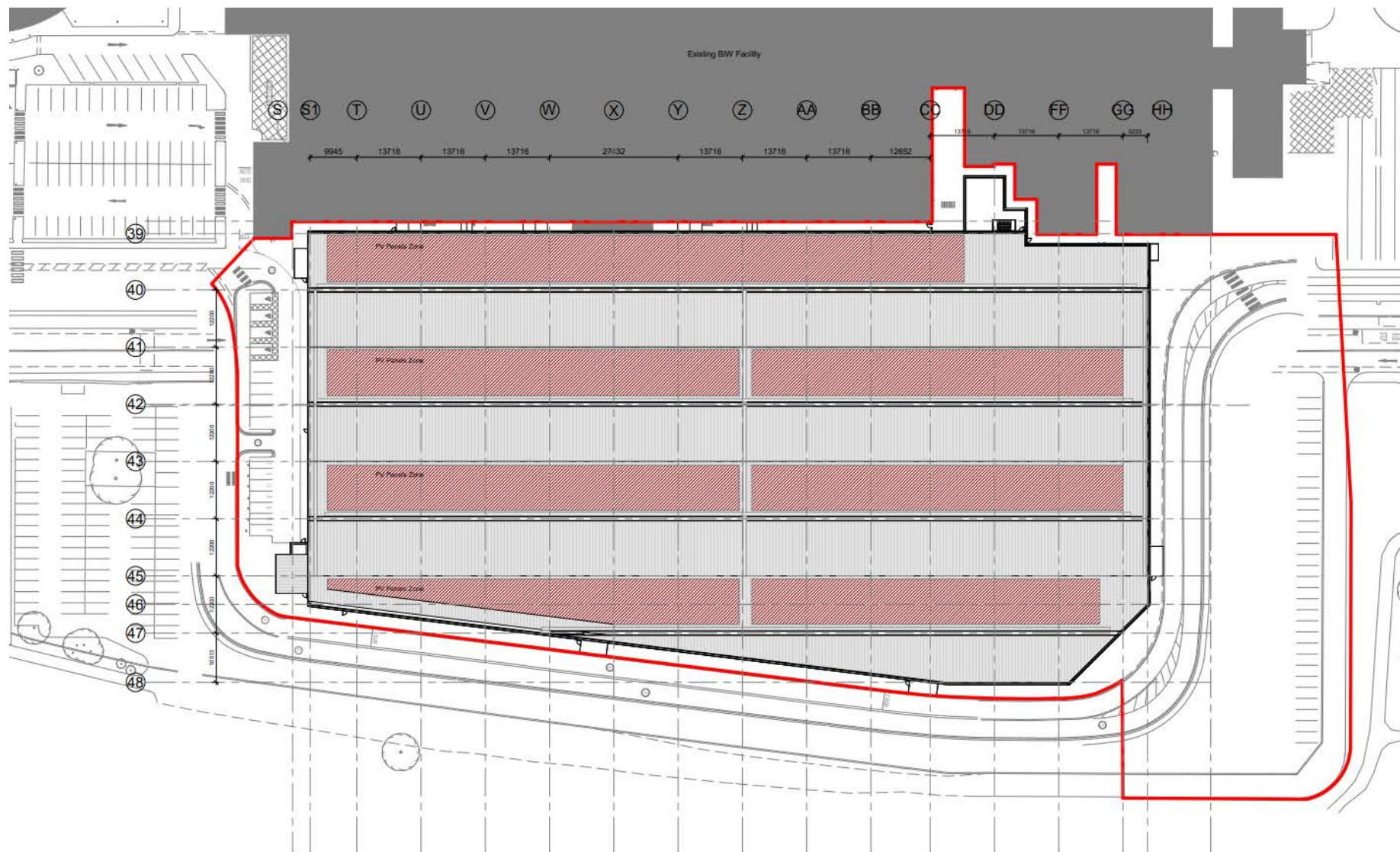
Figure 1



enviro|solution

Existing Site Plan

Figure 2



enviro|solution

Proposed Development Plan

Figure 3

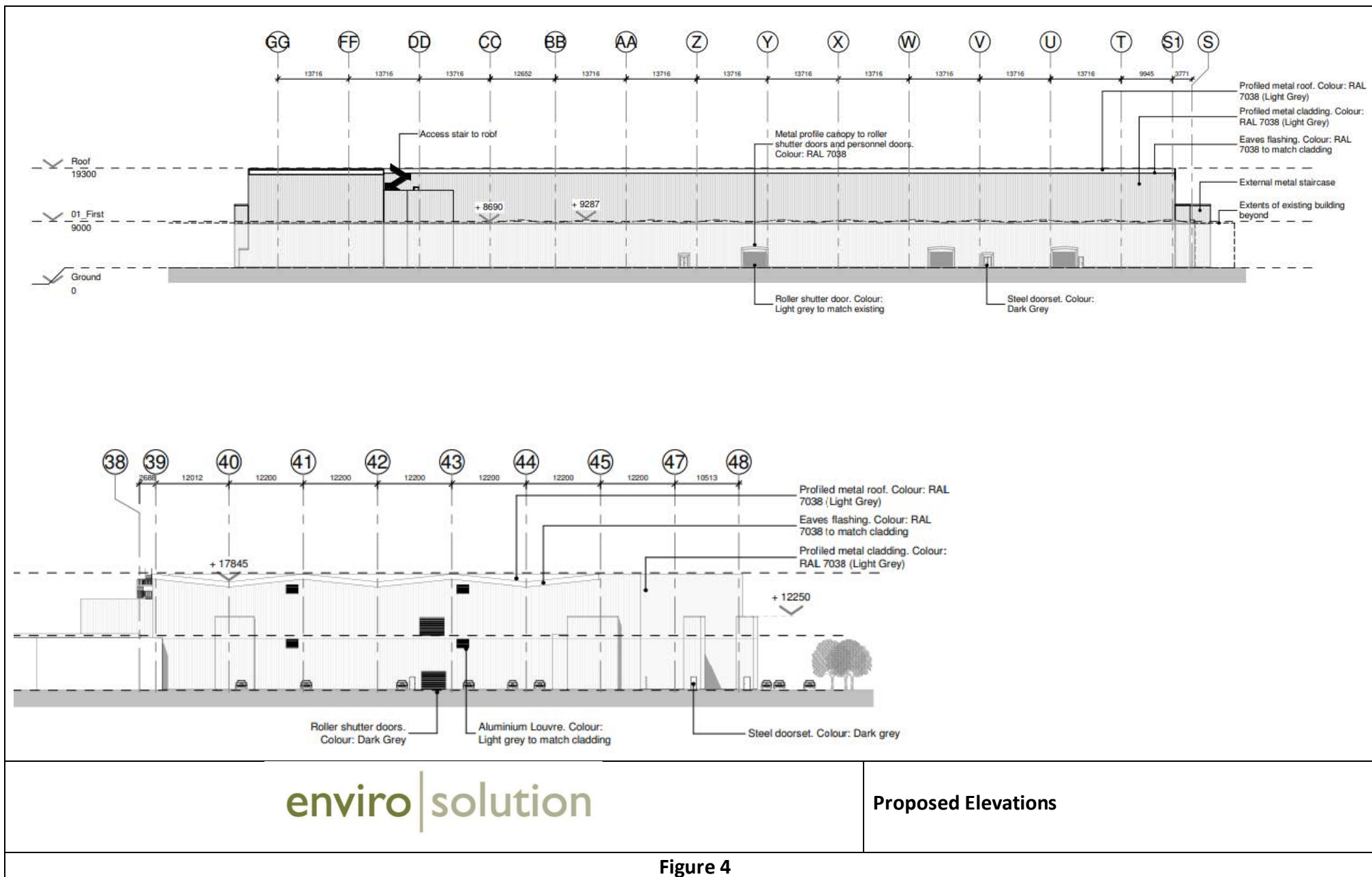
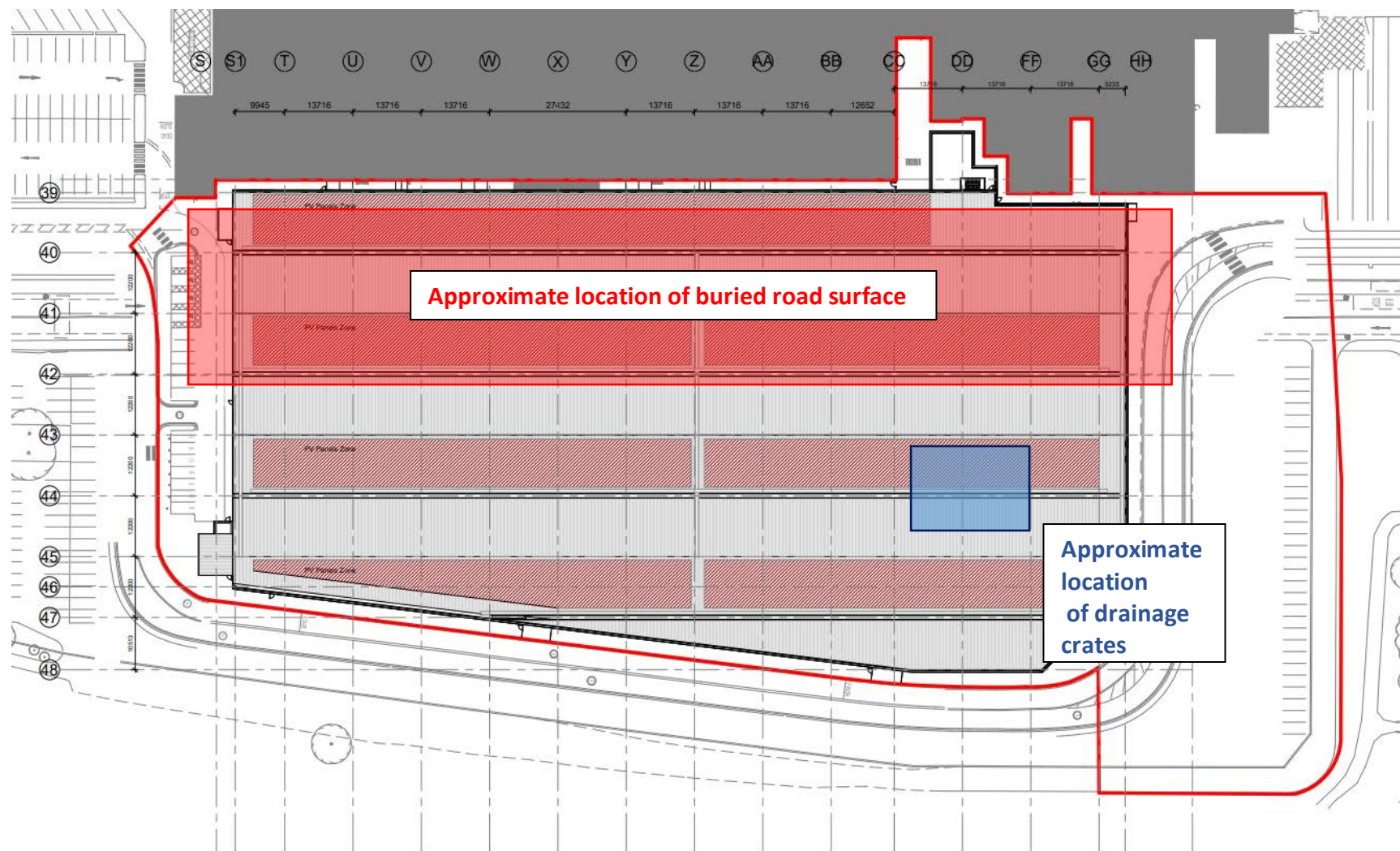


Figure 5



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Buried Obstructions

Figure 6

Appendix B – Site Photographs



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**View of adjacent building to the north
(June 2022)**



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View of site looking north (June 2022)



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View of site looking northeast (June 2022)



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Gravel along southern boundary of existing building (June 2022)



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Security fencing around drilling works (June 2022)



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Environmental bunds placed around drainage channels (June 2022)



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Breaking out of reinforced concrete
(June 2022)



enviro | solution

Foundation Pit TP1 (June 2022)



enviro|solution

Foundation Pit TP2 (June 2022)



enviro|solution

Concrete slab (June 2022)



enviro|solution

Relic road surface in north-western
corner of the site (August 2022)



enviro|solution

Removal of concrete slab (August 2022)



enviro|solution

Buried drainage crates (September 2022)

Appendix C – Window Sample Borehole Logs

[illegible]

Job Title: JLR Halewood						Client: JLR						Borehole No: WS2											
Location: JLR, Halewood												Page 2 of 10											
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 27.06.22						Drilling Method: Window Sampler										
							Drilling Contractor: EnviroSolution Ltd						Borehole Diameter: 87mm										
	Number	Type					Logged by: Tom Craig						Screen Type & Diameter: n/a										
							Checked by: Gemma Lucas						Screen Slot Size: n/a										
					0		Description												Comments		0		
							Made Ground: Reinforced concrete																
							Made Ground: Compact dark grey very sandy angular fine to coarse GRAVEL																
							Made Ground: Black tarmacadam hardstanding																
							Made Ground: Compact grey angular GRAVEL and occasional cobbles of sandstone and brick																
							Made Ground: Semi-compact red brown very sandy angular GRAVEL. Gravel is burnt shale, crushed brick and sandstone														1		
1.0m ♦					1		Firm becoming firm to stiff reddish brown gravelly CLAY. Gravel is subrounded to rounded sandstone and quartzite																
1.2m ♦																							
					2	12	Very gravelly from 3.0m														2		
																					3	12	3
					4	16															4		
					5	17	End of borehole at 5.0m														5		
Non-slotted Install								Surrounded by bentonite seal, capped with flush cover and gas valve															
Slotted Install								Surrounded by 10mm gravel and installed with end cap															
Legend:																							
♦ Disturbed Sample					† Down Borehole Analysis																		
○ Undisturbed Sample					▽ Groundwater Table																		
∅ Headspace Analysis					△ Perched Water Table																		

[illegible]

[illegible]

Job Title: JLR Halewood										Client: JLR										Borehole No: WS5													
Location: JLR, Halewood																				Page 5 of 10													
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 28.06.22										Drilling Method: Window Sampler																
							Drilling Contractor: EnviroSolution Ltd										Borehole Diameter: 87mm																
	Number	Type					Logged by: Tom Craig										Screen Type & Diameter: n/a																
							Checked by: Gemma Lucas										Screen Slot Size: n/a																
					0		Description										Comments										0						
							Made Ground: Reinforced concrete																										
							Made Ground: Compact grey GRAVEL																										
							Made Ground: Black sandy gravelly CLAY with brick, sandstone and timber																										
							Loose brown slightly silty fine SAND																										
					1																						1						
							Firm brown sandy CLAY										Groundwater recorded at 2.0m																
							2	9																				2					
									3	13																			3				
					4		End of borehole at 4.0m																				4						
											5																						5
Non-slotted Install								Surrounded by bentonite seal, capped with flush cover and gas valve																									
Slotted Install								Surrounded by 10mm gravel and installed with end cap																									
Legend: ♦ Disturbed Sample † Down Borehole Analysis ∪ Undisturbed Sample ∇ Groundwater Table ∅ Headspace Analysis Δ Perched Water Table																																	

[illegible]

[illegible]

Job Title: JLR Halewood							Client: JLR				Borehole No: WS8				
Location: JLR, Halewood											Page 8 of 10				
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 27.06.22				Drilling Method: Window Sampler				
							Drilling Contractor: EnviroSolution Ltd				Borehole Diameter: 87mm				
	Number	Type					Logged by: Tom Craig				Screen Type & Diameter: n/a				
							Checked by: Gemma Lucas				Screen Slot Size: n/a				
						0		Description				Comments		0	
								Made Ground: Reinforced concrete							
								Made Ground: Compact grey very sandy angular fine to coarse GRAVEL of mainly crushed sandstone							
								Made Ground: Black tarmacadam							
						1		Made Ground: Semi-compact red-brown very sandy angular GRAVEL. Gravel is burnt shale, crushed brick and sandstone						1	
								Firm brown sandy gravelly CLAY. Gravel is sub-rounded to rounded sandstone and quartzite							
						2	11							2	
						3	16							3	
						4	13							4	
						5	15	End of borehole at 5.0m						5	
Non-slotted Install								Surrounded by bentonite seal, capped with flush cover and gas valve							
Slotted Install								Surrounded by 10mm gravel and installed with end cap							
Legend:															
◆ Disturbed Sample † Down Borehole Analysis															
○ Undisturbed Sample ▽ Groundwater Table															
⊘ Headspace Analysis Δ Perched Water Table															

Job Title: JLR Halewood										Client: JLR					Borehole No: WS9				
Location: JLR, Halewood															Page 9 of 10				
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 27.06.22					Drilling Method: Window Sampler							
							Drilling Contractor: EnviroSolution Ltd					Borehole Diameter: 87mm							
	Number	Type					Logged by: Tom Craig					Screen Type & Diameter: n/a							
							Checked by: Gemma Lucas					Screen Slot Size: n/a							
						0	Description					Comments					0		
							Made Ground: Reinforced concrete												
							Compact black very sandy angular GRAVEL. Gravel is fine to coarse ash, brick, ceramic and sandstone												
							Made Ground: Crushed red brick												
							Made Ground: Firm dark brown and black sandy gravelly CLAY with brick												
1.0m ♦						1	9	Relict Topsoil: Loose dark brown clayey slightly gravelly fine SAND with organic matter including tree debris					Slight organic odour					1	
							Loose orange brown very clayey gravelly SAND. Gravel is sub-rounded to rounded sandstone. Occasional organic matter												
						2	12											2	
							Firm orange brown/ grey sandy gravelly CLAY with thin strings of grey sand												
						3	20											3	
							Becoming stiff at 3.50m												
						4												4	
						5		End of borehole at 5.0m										5	
Non-slotted Install								Surrounded by bentonite seal, capped with flush cover and gas valve											
Slotted Install								Surrounded by 10mm gravel and installed with end cap											
Legend: ♦ Disturbed Sample † Down Borehole Analysis ∪ Undisturbed Sample ∇ Groundwater Table ∅ Headspace Analysis Δ Perched Water Table																			

Job Title: JLR Halewood										Client: JLR										Borehole No: WS10A																			
Location: JLR, Halewood																				Page 10 of 10																			
Borehole Construction			Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 27.06.22										Drilling Method: Window Sampler																				
									Drilling Contractor: EnviroSolution Ltd										Borehole Diameter: 87mm																				
			Number						Type		Logged by: Tom Craig										Screen Type & Diameter: n/a																		
											Checked by: Gemma Lucas										Screen Slot Size: n/a																		
							0		Description																				Comments										0
0.6m ♦									Made Ground: Reinforced concrete																														
									Made Ground: Compact dark grey very sandy angular fine to coarse GRAVEL																														
									Made Ground: Black tarmacadam																														
									Made Ground: Semi-compact red brown very sandy angular GRAVEL. Gravel is burnt shale, crushed brick and sandstone																														
							1																																1
							10																																
									Firm brown sandy gravelly CLAY. Gravel is subrounded to rounded sandstone																														
							2	10																															2
</																																							

Appendix D – Cable Percussion Boreholes

Job Title: JLR Halewood				Client: Client: JLR				Borehole No: CP1			
Location: JLR, Halewood								Page 1 of 2			
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 29.06.22		Drilling Method: Cable Percussion		
							Drilling Contractor: EnviroSolution Ltd		Borehole Diameter: 100mm		
	Number	Type					Logged by: Tom Craig		Screen Type & Diameter: n/a		
							Checked by: Gemma Lucas		Screen Slot Size: n/a		
					0		Description		Comments	0	
							Made Ground: Reinforced concrete				
							Made Ground: Compact dark grey sandy angular fine to coarse GRAVEL				
							Made Ground: Black tarmacadam				
							Made Ground: Compact grey sandy GRAVEL				
			1.2m	◆			8	Firm brown silty sandy CLAY	Groundwater inflow recorded at 5.40m		
					2		8			2	
			3.0m	◆			10				
					4		12		4		
			5.0m	∪							
				▽							
			6.0m	◆	6		11	Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravels are angular fine to coarse sandstone		6	
								(Continued)			
							19				
			7.5m	◆							
					8					8	
							9				
			10.0m	∪	10				10		
Non-slotted Install							Surrounded by bentonite seal, capped with flush cover and gas valve				
Slotted Install							Surrounded by 10mm gravel and installed with end cap				
Legend:											
◆ Disturbed Sample					† Down Borehole Analysis						
∪ Undisturbed Sample					▽ Groundwater Table						
Ø Headspace Analysis					△ Perched Water Table						

[illegible]

Job Title: JLR Halewood				Client: Client: JLR				Borehole No: CP2			
Location: JLR, Halewood								Page 1 of 2			
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 02.07.22		Drilling Method: Cable Percussion		
							Drilling Contractor: EnviroSolution Ltd		Borehole Diameter: 100mm		
	Number	Type					Logged by: Tom Craig		Screen Type & Diameter: n/a		
							Checked by: Gemma Lucas		Screen Slot Size: n/a		
					0		Description		Comments	0	
	0.30m	◆						Made Ground: Reinforced concrete			
	0.40m	◆						Made Ground: Compact dark grey very sand angular coarse GRAVEL			
								Made Ground: Brown very sandy GRAVEL with brick and sandstone			
	1.0m	▲						Firm brown slightly sandy gravelly CLAY with fine to coarse gravels of sandstone			
						12					
					2					2	
	3.0m	▲						Stiff brown slightly sandy slightly gravelly CLAY with occasional cobbles of sandstone			
					4		(Continued)			4	
						11					
	6.0m	∪			6					6	
						13					
					8					8	
						13					
					10					10	
Non-slotted Install							Surrounded by bentonite seal, capped with flush cover and gas valve				
Slotted Install							Surrounded by 10mm gravel and installed with end cap				
Legend: ◆ Disturbed Sample † Down Borehole Analysis ∪ Undisturbed Sample ∇ Groundwater Table ∅ Headspace Analysis Δ Perched Water Table											

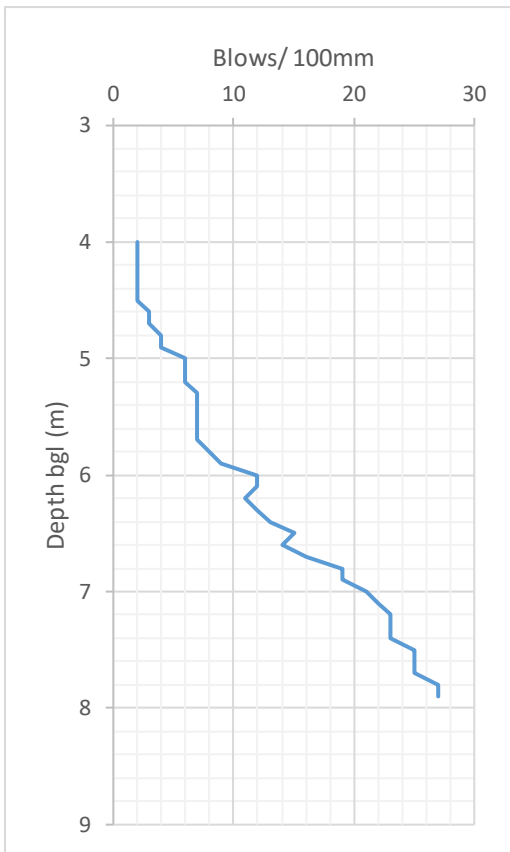
[illegible]

Job Title: JLR Halewood						Client: Client: JLR				Borehole No: CP3				
Location: JLR, Halewood										Page 1 of 2				
Borehole Construction	Sample		Soil Vapour (ppm)	Groundwater	Depth (m)	SPT	Drilling Dates: 01.07.22			Drilling Method: Cable Percussion				
	Number	Type					Drilling Contractor: EnviroSolution Ltd			Borehole Diameter: 100mm				
							Logged by: Tom Craig			Screen Type & Diameter: n/a				
							Checked by: Gemma Lucas			Screen Slot Size: n/a				
					0		Description			Comments		0		
							Made Ground: Reinforced concrete							
							Made Ground: Compact dark grey very sandy angular fine to coarse GRAVEL							
							Firm brown gravelly CLAY							
							Very soft black very sandy CLAY with organic matter			Slight organic odour				
							Firm brown gravelly CLAY							
					2		Soft brown sandy slightly gravelly CLAY					2		
					4		Stiff brown sandy slightly gravelly CLAY with rounded to sub-angular fine to coarse gravels of sandstone and quartzite			Groundwater inflow recorded at 6.0m				
							(Continued)						4	
					11									
					6	11								
					10									
					8									
					10							10		
Non-slotted Install								Surrounded by bentonite seal, capped with flush cover and gas valve						
Slotted Install								Surrounded by 10mm gravel and installed with end cap						
Legend:														
◆ Disturbed Sample				† Down Borehole Analysis										
○ Undisturbed Sample				▽ Groundwater Table										
⊘ Headspace Analysis				△ Perched Water Table										

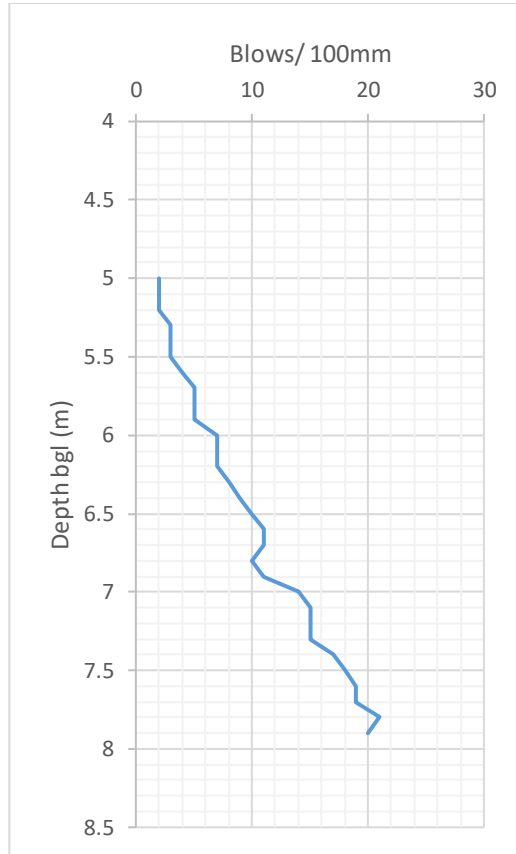
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Appendix E – Dynamic Probe Logs

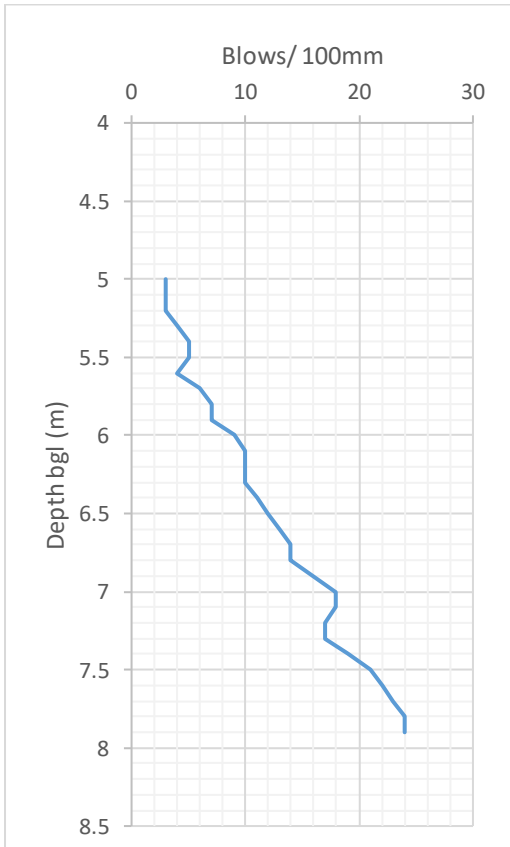
DP5



DP6



DP9



Appendix F – Dynamic Cone Penetrometer Tests

DCP1 (WS1)

Blow Count	Rod Reading (mm)	Penetration Index (mm/blow)	Estimated CBR
0	327	n/a	n/a
1	333	6	38
2	335	2	100+
3	340	5	50
4	347	7	30
5	356	7	30
6	355	1	100+
7	357	2	100+
8	360	3	90
9	365	5	50
10	366	1	100+
11	372	6	38
12	377	5	50
13	381	4	59
14	389	8	28
15	391	2	100+
16	396	3	90
17	400	4	59
18	401	1	100+
19	404	3	90
20	408	4	59
21	410	2	100+
22	415	5	50
23	419	4	59
24	422	3	90
25	424	2	100+
26	425	1	100+
27	429	4	59
28	432	3	90

Test conducted at 0.30m, below concrete in Made Ground

DCP2 (WS2)

Blow Count	Rod Reading (mm)	Penetration Index (mm/blow)	Estimated CBR
0	85	n/a	n/a
1	117	32	6
2	146	29	6
3	183	38	5
4	220	37	5
5	255	35	6
6	293	38	5
7	330	37	5
8	365	35	6
9	395	30	6
10	425	30	6
11	455	30	6
12	485	30	6

Test conducted at 1.20m in natural clay

DCP3 (WS3)

Blow Count	Rod Reading (mm)	Penetration Index (mm/blow)	Estimated CBR
0	90	n/a	n/a
1	124	34	2
2	150	26	8
3	174	22	9
4	193	19	10
5	211	18	11
6	232	21	9
7	252	20	10
8	271	19	10
9	291	20	10
10	310	19	10
11	330	20	10
12	340	10	20
13	365	25	8

Test conducted at 1.20m in natural clay

DCP4 (WS4)

Blow Count	Rod Reading (mm)	Penetration Index (mm/blow)	Estimated CBR
0	133	n/a	n/a
1	164	31	6
2	200	36	5
3	219	19	10
4	241	22	9
5	264	23	9
6	282	18	11
7	299	17	11
8	310	11	21
9	325	15	12
10	341	16	12
11	360	19	10
12	374	14	12
13	390	16	12

Test conducted at 1.20m in natural clay

DCP1C (CP1)

Blow Count	Rod Reading (mm)	Penetration Index (mm/blow)	Estimated CBR
0	57	n/a	n/a
1	100	43	4
2	138	38	5
3	170	32	6
4	200	30	6
5	232	32	6
6	268	36	5
7	301	43	4
8	330	29	6
9	353	23	9
10	379	26	8
11	408	29	6

Test conducted at 1.20m in natural clay

Appendix G – Monitoring Results

Date: 13.07.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	0	0	0	20.0	0	1017	0.90	4.30
WS2	0	0	0	21.1	0	1017	0.77	4.32
WS3	0	0	0	20.3	0	1017	1.45	4.68
WS4	0	0.3	0	20.2	0	1017	1.08	4.0
WS5	0	0.1	0	21.2	0	1017	0.59	2.86
WS6	-0.8	0	0	19.5	1.0	1017	1.20	4.10
WS7	2.8	0.2	0	19.0	1.5	1017	0.75	4.58
WS8	0	0.8	0.2	20.2	0	1017	1.0	4.75
WS9	0	2.3	1.2	13.7	0	1017	1.87	4.04
WS10A	0	0.6	0.1	19.8	0	1017	1.60	4.70
CP1	0	0.3	0.5	14.5	0	1017	2.25	18.09
CP2	0	0	0.6	14.6	6.1	1017	1.20	14.45
CP3	0	0	6.4	17.6	0	1017	2.14	19.0

*Groundwater samples taken from WS1, WS2, WS3, WS10, CP1, CP2, CP3

Date: 28.07.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	0	0	0	21.0	0	1010	0.93	4.30
WS2	0	-0.1	0	19.4	0	1010	0.80	4.30
WS3	0	-0.1	0	20.4	0	1010	1.38	4.67
WS4	0	0	0	20.2	1	1010	1.12	4.0
WS5	0	0	0	20.4	0	1010	0.33	2.90
WS6	0	0	0.2	20.1	0	1010	1.10	4.10
WS7	0	0	0.2	19.2	0	1010	0.79	4.60
WS8	0	0	0.1	21.0	0	1010	0.87	4.66
WS9	0	5.7	2.1	6.0	0	1010	1.40	4.17
WS10A	0	-0.1	0.1	18.4	0	1010	1.50	3.80
CP1	0	0	1.3	9.2	0	1010	2.12	17.70
CP2	0				0	1010	0.97	14.36
CP3	0	0	4.4	12.7	0	1010	2.12	18.90

*Well head flooded in CP2, unable to monitor gas

Date: 17.08.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	-1.0	0	0.1	20.6	0	1010	1.36	4.20
WS2	-0.2	0	0.3	21.1	0	1010	0.72	4.62
WS3	-0.8	0	0	20.9	0	1010	0.70	4.52
WS4							0.75	2.75
WS5	0	0	0	19.9	0	1010	1.12	3.97
WS6	-0.1	0	0.3	19.5	0	1010	0.70	3.92
WS7							0.70	4.52
WS8	-0.2	0	0.3	20.4	0	1010	0.95	4.65
WS9	-0.4	0	0.5	16.7	0	1010	1.90	4.21
WS10A	-0.2	0	0.5	16.5	0	1010	1.97	4.97
CP1								
CP2	0	0	0.3	20.0	0	1010		
CP3	-0.2	0	0.8	20.3	0	1010	2.33	18.93

*Well head damaged and destroyed in CP1

*Well head damaged, bung replaced after groundwater monitoring in WS4

*Well completely destroyed CP2

Date: 25.08.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	0.4	0	0.1	21.1	0	1011	1.23	4.14
WS2	0.3	0	0.2	21.1	0	1011	0.97	4.20
WS3								
WS4								
WS5								
WS6	-0.1	0	0.3	20.3	0	1011	0.65	1.87
WS7	-0.4	0	0.3	20.8	0	1011	0.72	4.51
WS8	0.1	0	0.3	20.9	0	1011	1.04	2.60
WS9	-1.2	0	2.9	6.9	0	1011	1.25	4.08
WS10A	-0.4	0	0.5	16.0	0	1011	1.50	3.46
CP1								
CP2								
CP3	0	0	3.7	16.7	0	1011	2.18	18.64

*Well head damaged, bung replaced after groundwater monitoring in WS3

*Well head destroyed in WS4

*Well head destroyed in WS5

Date: 08.09.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	0	-0.2	0.1	20.3	0	1000	0.78	4.25
WS2	0	-0.1	0.4	19.5	0	1000	0.96	4.16
WS3	0	-0.1	0.1	20.1	0	1000	1.40	-
WS4	-	-	-	-	-	-	1.20	3.25
WS5	-	-	-	-	-	-	0.33	2.28
WS6	0	-0.1	0.1	20.5	0	1000	0.68	3.88
WS7	0	-0.1	0.3	20.0	0	1000	0.75	4.54
WS8	0	-0.1	0.7	18.5	0	1000	1.0	4.70
WS9	0	1.4	2.5	4.6	0	1000	1.22	4.02
WS10A	0	-0.2	0.6	14.5	0	1000	1.40	-
CP1	-	-	-	-	0	1000	-	-
CP2	-	-	-	-	0	1000	-	-
CP3	0	0	6.4	12.8	0	1000	2.30	18.80

*Bailer stuck in WS4, not possible to measure base

*Bailer stuck in WS5, not possible to measure base

Date: 15.09.22

Borehole	Flow (l/hr)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	CO (ppm)	Pressure (mbar)	GWL (m)	Base (m)
WS1	0	0	0	20.5	0	1011	1.14	4.20
WS2	0	0	0	20.5	0	1011	1.05	4.20
WS3	0	0	0	20.3	0	1011	1.44	-
WS4	-	-	-	-	-	-	1.20	3.20
WS5	-	-	-	-	-	-	0.37	2.30
WS6	0	0	0.6	20.2	0	1011	0.65	3.87
WS7	0	0	0.6	19.6	0	1011	0.60	4.52
WS8	0	0	0.2	20.5	0	1011	0.89	4.69
WS9	0	0	0.7	15.1	0	1011	1.26	4.05
WS10A	0	-0.1	0.4	19.8	0	1011	1.33	-
CP1	-	-	-	-	0	1011	-	-
CP2	-	-	-	-	0	1011	-	-
CP3	0	-0.1	3.0	16.5	0	1011	2.30	18.80

*Bailer stuck in WS4, not possible to measure base

*Bailer stuck in WS5, not possible to measure base

Appendix H – Laboratory Data



Final Report

Report No.: 22-26133-1

Initial Date of Issue: 15-Jul-2022

Client EnviroSolution

Client Address: Suite 53
3a Bridgewater Street
Liverpool
L1 0AB

Contact(s): Tom Craig

Project JLR - Halewood

Quotation No.: **Date Received:** 11-Jul-2022

Order No.: ES110722 **Date Instructed:** 11-Jul-2022

No. of Samples: 21

Turnaround (Wkdays): 5 **Results Due:** 15-Jul-2022

Date Approved: 15-Jul-2022

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.:				1465556	1465557	1465558	1465559	1465560	1465561	1465562	1465563	1465564
	Sample Location:				WS1	WS1	WS2	WS2	WS3	WS4	WS4	WS5	WS6
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.40	1.20	1.00	1.20	0.50	0.30	1.20	0.50	1.00
	Date Sampled:				27-Jun-2022	27-Jun-2022	29-Jun-2022	29-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	29-Jun-2022	29-Jun-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	5.2	9.9	7.5	7.6	7.2	7.2	11	10	13
pH	M	2010		4.0	11.9	9.8	9.0	8.8	9.6	10.2	9.8	11.3	9.4
Arsenic	M	2455	mg/kg	0.5	2.2	3.4	6.0	4.9	1.1	2.9	2.5	4.7	5.0
Cadmium	M	2455	mg/kg	0.10	0.15	< 0.10	0.17	0.23	< 0.10	< 0.10	< 0.10	0.16	< 0.10
Chromium	M	2455	mg/kg	0.5	5.6	12	11	11	5.9	8.2	10	14	16
Copper	M	2455	mg/kg	0.50	7.1	7.4	11	11	3.7	8.7	5.4	19	9.1
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	7.6	15	16	16	5.9	7.9	13	15	16
Lead	M	2455	mg/kg	0.50	16	6.3	20	21	5.0	5.3	3.2	48	13
Selenium	M	2455	mg/kg	0.25	0.25	< 0.25	0.36	0.56	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc	M	2455	mg/kg	0.50	21	17	35	43	22	16	15	55	21
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	6.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	47	14	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	58	46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	200	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	310	260	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	58	75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	350	330	< 1.0	< 1.0	< 1.0	16	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	2300	1700	< 1.0	< 1.0	< 1.0	110	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	2700	2100	< 5.0	< 5.0	< 5.0	120	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	3100	2400	< 10	< 10	< 10	120	< 10
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Chloroethane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.:				1465556	1465557	1465558	1465559	1465560	1465561	1465562	1465563	1465564
	Sample Location:				WS1	WS1	WS2	WS2	WS3	WS4	WS4	WS5	WS6
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.40	1.20	1.00	1.20	0.50	0.30	1.20	0.50	1.00
	Date Sampled:				27-Jun-2022	27-Jun-2022	29-Jun-2022	29-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	29-Jun-2022	29-Jun-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD									
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.:				1465556	1465557	1465558	1465559	1465560	1465561	1465562	1465563	1465564
	Sample Location:				WS1	WS1	WS2	WS2	WS3	WS4	WS4	WS5	WS6
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.40	1.20	1.00	1.20	0.50	0.30	1.20	0.50	1.00
	Date Sampled:				27-Jun-2022	27-Jun-2022	29-Jun-2022	29-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	29-Jun-2022	29-Jun-2022
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD									
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.: 22-26133					22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.: 1465556					1465557	1465558	1465559	1465560	1465561	1465562	1465563	1465564
	Sample Location:					WS1	WS1	WS2	WS2	WS3	WS4	WS4	WS5
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.40	1.20	1.00	1.20	0.50	0.30	1.20	0.50
	Date Sampled:					27-Jun-2022	27-Jun-2022	29-Jun-2022	29-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	29-Jun-2022
	Asbestos Lab:					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD									
2-Chloronaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	2.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	2.2	6.1	3.7	< 0.50	< 0.50	0.83	< 0.50
Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	1.1	4.4	1.6	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	17	79	6.1	0.52	< 0.50	1.2	0.65
Pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	16	71	4.8	< 0.50	< 0.50	1.1	0.77
Butylbenzyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	7.3	31	2.5	< 0.50	< 0.50	0.58	< 0.50
Chrysene	M	2790	mg/kg	0.50	< 0.50	< 0.50	7.1	29	2.2	< 0.50	< 0.50	0.55	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	11	38	3.0	1.3	< 0.50	0.72	0.50
Benzo[k]fluoranthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	4.1	13	1.1	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	9.0	29	2.4	< 0.50	< 0.50	0.58	< 0.50
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	5.6	16	1.3	0.85	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	1.3	5.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50	< 0.50	< 0.50	6.2	18	1.4	0.99	< 0.50	< 0.50	< 0.50

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.: 22-26133					22-26133	22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.: 1465565					1465566	1465567	1465568	1465569	1465570	
	Sample Location:					WS7	WS8	WS9	WS10	CP2	CP2
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.60	0.40	1.0	0.60	0.40	1.00
	Date Sampled:					29-Jun-2022	30-Jun-2022	30-Jun-2022	30-Jun-2022	03-Jul-2022	03-Jul-2022
	Asbestos Lab:					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	11	9.6	19	9.1	8.3	12	
pH	M	2010		4.0	9.2	9.0	7.9	8.6	9.7	9.5	
Arsenic	M	2455	mg/kg	0.5	15	27	6.1	5.0	11	1.8	
Cadmium	M	2455	mg/kg	0.10	0.20	0.21	< 0.10	< 0.10	0.43	< 0.10	
Chromium	M	2455	mg/kg	0.5	8.8	11	9.5	7.5	180	13	
Copper	M	2455	mg/kg	0.50	25	50	20	7.8	31	6.2	
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	0.07	< 0.05	0.07	< 0.05	
Nickel	M	2455	mg/kg	0.50	14	19	9.7	11	20	14	
Lead	M	2455	mg/kg	0.50	24	30	50	8.5	110	4.2	
Selenium	M	2455	mg/kg	0.25	< 0.25	0.38	< 0.25	< 0.25	0.53	< 0.25	
Zinc	M	2455	mg/kg	0.50	43	57	61	17	120	16	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	< 10	< 10	< 10	
Dichlorodifluoromethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Chloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Vinyl Chloride	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Bromomethane	M	2760	µg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20	
Chloroethane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
Trichlorofluoromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.: 22-26133					22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.: 1465565					1465566	1465567	1465568	1465569	1465570
	Sample Location:					WS7	WS8	WS9	WS10	CP2
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.60	0.40	1.0	0.60	0.40
	Date Sampled:					29-Jun-2022	30-Jun-2022	30-Jun-2022	30-Jun-2022	03-Jul-2022
	Asbestos Lab:					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
1,1-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	U	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	N	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	M	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	2760	µg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	M	2760	µg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	M	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.: 22-26133					22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.: 1465565					1465566	1465567	1465568	1465569	1465570
	Sample Location: WS7					WS8	WS9	WS10	CP2	CP2
	Sample Type: SOIL					SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m): 0.60					0.40	1.0	0.60	0.40	1.00
	Date Sampled: 29-Jun-2022					30-Jun-2022	30-Jun-2022	30-Jun-2022	03-Jul-2022	03-Jul-2022
	Asbestos Lab: DURHAM					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
Sec-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Butylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	2760	µg/kg	50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	2760	µg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Soil

Project: JLR - Halewood

Client: EnviroSolution	Chemtest Job No.: 22-26133					22-26133	22-26133	22-26133	22-26133	22-26133
Quotation No.:	Chemtest Sample ID.: 1465565					1465566	1465567	1465568	1465569	1465570
	Sample Location:					WS7	WS8	WS9	WS10	CP2
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.60	0.40	1.0	0.60	0.40
	Date Sampled:					29-Jun-2022	30-Jun-2022	30-Jun-2022	30-Jun-2022	03-Jul-2022
	Asbestos Lab:					DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD						
2-Chloronaphthalene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
3-Nitroaniline	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.69	< 0.50
Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	M	2790	mg/kg	0.50	< 0.50	6.6	< 0.50	< 0.50	1.1	< 0.50
Pyrene	M	2790	mg/kg	0.50	< 0.50	6.6	< 0.50	< 0.50	0.98	< 0.50
Butylbenzyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	M	2790	mg/kg	0.50	< 0.50	3.1	< 0.50	< 0.50	0.50	< 0.50
Chrysene	M	2790	mg/kg	0.50	< 0.50	3.1	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	M	2790	mg/kg	0.50	< 0.50	5.9	< 0.50	< 0.50	0.67	< 0.50
Benzo[k]fluoranthene	M	2790	mg/kg	0.50	< 0.50	2.1	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	M	2790	mg/kg	0.50	< 0.50	4.6	< 0.50	< 0.50	0.56	< 0.50
Indeno(1,2,3-c,d)Pyrene	M	2790	mg/kg	0.50	< 0.50	3.0	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	M	2790	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	M	2790	mg/kg	0.50	< 0.50	3.4	< 0.50	< 0.50	< 0.50	< 0.50

Results - Single Stage WAC

Project: JLR - Halewood

Chemtest Job No: 22-26133					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1465571					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: CP2							
Top Depth(m): 0.30							
Bottom Depth(m):							
Sampling Date: 27-Jun-2022							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	1.4	3	5	6
Loss On Ignition	2610	M	%	1.6	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] 330	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	20	100	--	--
pH	2010	M		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.021	--	To evaluate	To evaluate
Eluate Analysis						Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg	
			10:1 Eluate mg/l	10:1 Eluate mg/kg			
Arsenic	1455	U	0.011	0.11	0.5	2	25
Barium	1455	U	0.022	0.22	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0010	0.0096	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0023	0.023	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.0010	0.010	0.06	0.7	5
Selenium	1455	U	0.0009	0.0092	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	5.0	50	800	15000	25000
Fluoride	1220	U	0.13	1.3	10	150	500
Sulphate	1220	U	25	250	1000	20000	50000
Total Dissolved Solids	1020	N	85	850	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	45	450	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	6.3

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: JLR - Halewood

Chemtest Job No: 22-26133					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1465572					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: CP2							
Top Depth(m): 3.00							
Bottom Depth(m):							
Sampling Date: 27-Jun-2022							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	0.20	3	5	6
Loss On Ignition	2610	M	%	0.86	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] < 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.2	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.026	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0012	0.012	0.5	2	25
Barium	1455	U	0.021	0.21	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0005	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0015	0.015	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.0011	0.011	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	2.7	27	800	15000	25000
Fluoride	1220	U	3.1	31	10	150	500
Sulphate	1220	U	6.4	64	1000	20000	50000
Total Dissolved Solids	1020	N	65	650	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	62	620	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	12

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: JLR - Halewood

Chemtest Job No: 22-26133					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1465573					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: WS8							
Top Depth(m): 1.00							
Bottom Depth(m):							
Sampling Date: 27-Jun-2022							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	2.1	3	5	6
Loss On Ignition	2610	M	%	1.6	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] 390	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	36	100	--	--
pH	2010	M		7.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.022	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.037	0.36	0.5	2	25
Barium	1455	U	0.031	0.31	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0012	0.012	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0053	0.053	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.0020	0.020	0.06	0.7	5
Selenium	1455	U	0.0036	0.036	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	48	480	800	15000	25000
Fluoride	1220	U	0.35	3.5	10	150	500
Sulphate	1220	U	140	1400	1000	20000	50000
Total Dissolved Solids	1020	N	340	3400	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	4.0	< 50	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	8.6

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: JLR - Halewood

Chemtest Job No: 22-26133					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1465574					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: WS6							
Top Depth(m): 2.00							
Bottom Depth(m):							
Sampling Date: 27-Jun-2022							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	0.79	3	5	6
Loss On Ignition	2610	M	%	2.4	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] 38	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.027	--	To evaluate	To evaluate
Eluate Analysis						Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg	
			10:1 Eluate mg/l	10:1 Eluate mg/kg			
Arsenic	1455	U	0.0006	0.0062	0.5	2	25
Barium	1455	U	0.017	0.17	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0005	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0086	0.086	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.007	0.070	4	50	200
Chloride	1220	U	10	100	800	15000	25000
Fluoride	1220	U	2.5	25	10	150	500
Sulphate	1220	U	14	140	1000	20000	50000
Total Dissolved Solids	1020	N	100	1000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	47	470	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	9.8

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: JLR - Halewood

Chemtest Job No: 22-26133					Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1465575					Limits		
Sample Ref:					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:							
Sample Location: WS9							
Top Depth(m): 1.00							
Bottom Depth(m):							
Sampling Date: 01-Jul-2022							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	3.1	3	5	6
Loss On Ignition	2610	M	%	7.1	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] 20	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	2.9	100	--	--
pH	2010	M		6.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.020	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0091	0.091	0.5	2	25
Barium	1455	U	0.032	0.32	20	100	300
Cadmium	1455	U	0.00013	0.0013	0.04	1	5
Chromium	1455	U	0.0010	0.010	0.5	10	70
Copper	1455	U	0.0086	0.086	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.022	0.22	0.5	10	30
Nickel	1455	U	0.0026	0.026	0.4	10	40
Lead	1455	U	0.0072	0.072	0.5	10	50
Antimony	1455	U	0.0083	0.083	0.06	0.7	5
Selenium	1455	U	0.0016	0.016	0.1	0.5	7
Zinc	1455	U	0.045	0.45	4	50	200
Chloride	1220	U	3.3	33	800	15000	25000
Fluoride	1220	U	0.52	5.2	10	150	500
Sulphate	1220	U	62	620	1000	20000	50000
Total Dissolved Solids	1020	N	140	1400	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	22	220	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	15

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: JLR - Halewood

Project: CER - Harewood					Landfill Waste Acceptance Criteria		
Chemtest Job No:		22-26133			Limits		
Chemtest Sample ID:		1465576			Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample Ref:							
Sample ID:							
Sample Location:		CP3					
Top Depth(m):		6.00					
Bottom Depth(m):							
Sampling Date:		02-Jul-2022					
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	M	%	< 0.20	3	5	6
Loss On Ignition	2610	M	%	1.4	--	--	10
Total BTEX	2760	M	mg/kg	[C] < 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	[C] < 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0	100	--	--
pH	2010	M		8.1	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.026	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0012	0.012	0.5	2	25
Barium	1455	U	0.054	0.54	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0008	0.0079	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0017	0.017	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.0010	0.0097	0.06	0.7	5
Selenium	1455	U	0.0007	0.0071	0.1	0.5	7
Zinc	1455	U	0.004	0.035	4	50	200
Chloride	1220	U	2.7	27	800	15000	25000
Fluoride	1220	U	2.1	21	10	150	500
Sulphate	1220	U	6.6	66	1000	20000	50000
Total Dissolved Solids	1020	N	61	610	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	120	1200	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	12

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Deviations

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

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1465571			CP2	27-Jun-2022	C	Plastic Tub 500g
1465572			CP2	27-Jun-2022	C	Plastic Tub 500g
1465573			WS8	27-Jun-2022	C	Plastic Tub 500g
1465574			WS6	27-Jun-2022	C	Plastic Tub 500g
1465575			WS9	01-Jul-2022	C	Plastic Tub 500g
1465576			CP3	02-Jul-2022	C	Plastic Tub 1000g

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com



2183

Final Report

Report No.: 22-26833-1
Initial Date of Issue: 20-Jul-2022
Client EnviroSolution
Client Address: Suite 53
3a Bridgewater Street
Liverpool
L1 0AB
Contact(s): Tom Craig
Project JLR Halewood
Quotation No.:
Order No.: ES140722
No. of Samples: 7
Turnaround (Wkdays): 5
Date Approved: 20-Jul-2022

Date Received: 15-Jul-2022
Date Instructed: 15-Jul-2022
Results Due: 21-Jul-2022

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Water

Project: JLR Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26833	22-26833	22-26833	22-26833	22-26833	22-26833	22-26833
Quotation No.:	Chemtest Sample ID.:				1468837	1468838	1468839	1468840	1468841	1468842	1468843
	Client Sample ID.:				CP3	WS10	WS3	CP2	CP1	WS2	WS1
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):				10	3	3	10	10	3	3
	Date Sampled:				13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
Determinand	Accred.	SOP	Units	LOD							
pH	U	1010		N/A	7.8	7.9	9.5	8.0	7.8	7.9	9.1
Sulphate	U	1220	mg/l	1.0	27	1200	100	170	140	1500	440
Total Hardness as CaCO3	U	1270	mg/l	15	670	1500	350	580	570	1300	470
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.65	< 0.20	2.3	0.49	6.8	1.0	1.2
Cadmium (Dissolved)	U	1455	µg/l	0.11	0.13	0.20	< 0.11	< 0.11	< 0.11	0.22	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	2.2	0.80	21	1.8	< 0.50	2.9	8.1
Copper (Dissolved)	U	1455	µg/l	0.50	2.8	1.9	9.7	0.76	< 0.50	1.6	3.0
Mercury (Dissolved)	U	1455	µg/l	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (Dissolved)	U	1455	µg/l	0.50	2.6	5.2	3.7	1.7	2.0	2.8	3.2
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Selenium (Dissolved)	U	1455	µg/l	0.50	< 0.50	25	7.3	< 0.50	< 0.50	4.6	7.7
Zinc (Dissolved)	U	1455	µg/l	2.5	< 2.5	3.6	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Water

Project: JLR Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26833	22-26833	22-26833	22-26833	22-26833	22-26833	22-26833
Quotation No.:	Chemtest Sample ID.:				1468837	1468838	1468839	1468840	1468841	1468842	1468843
	Client Sample ID.:				CP3	WS10	WS3	CP2	CP1	WS2	WS1
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):				10	3	3	10	10	3	3
	Date Sampled:				13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
Determinand	Accred.	SOP	Units	LOD							
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Trichloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane	U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	U	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Water

Project: JLR Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26833	22-26833	22-26833	22-26833	22-26833	22-26833	22-26833
Quotation No.:	Chemtest Sample ID.:				1468837	1468838	1468839	1468840	1468841	1468842	1468843
	Client Sample ID.:				CP3	WS10	WS3	CP2	CP1	WS2	WS1
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):				10	3	3	10	10	3	3
	Date Sampled:				13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
Determinand	Accred.	SOP	Units	LOD							
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Results - Water

Project: JLR Halewood

Client: EnviroSolution	Chemtest Job No.:				22-26833	22-26833	22-26833	22-26833	22-26833	22-26833	22-26833
Quotation No.:	Chemtest Sample ID.:				1468837	1468838	1468839	1468840	1468841	1468842	1468843
	Client Sample ID.:				CP3	WS10	WS3	CP2	CP1	WS2	WS1
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):				10	3	3	10	10	3	3
	Date Sampled:				13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
Determinand	Accred.	SOP	Units	LOD							
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com

Moisture Content

Report No: DAM0088191/401/M2 **Report Date:** 5 September 2022

Client: ENVIROSOLUTION LIMITED **Our Contract Ref:** 51070757

Address: Suite 5 The Quay
No 12 Princes Dock
Liverpool Waters
L3 1DL
GB **Tested By:** SOCOTEC Central

Client Contact: Not Advised **Date Sampled:** 15 Jul 2022

Site: Halewood **Date Received:** 15 Jul 2022

Material Supplier: Client **Date Tested:** 26 Aug 2022

Material Source: Site **Sampling Certificate:** Not Received

Method of preparation: BS1377-1:1990 7.4.2 **Samples Submitted by:** Client

Sampled by: Client

Results:

Sample Reference	Clients Reference	Location	Moisture Content(%)	Sample Type	Description
45412386	2	WS1 @ 0.5m	12	Bulk	Brown CLAY with Occasional Gravel
45412387	3	CP1 @ 1.2m	13	Bulk	Brown CLAY with Occasional Gravel
45412388	4	CP1 @ 3.0m	12	Bulk	Brown CLAY with Occasional Gravel
45412392	8	CP1 @ 7.5m	15	Bulk	Red Brown CLAY
45412393	9	CP1 @ 18m	11	Bulk	Red Brown CLAY
45412395	11	WS3 @ 1.5m	13	Bulk	Brown CLAY with Occasional Gravel
45412401	17	CP3 @ 19.5-19.95	15	Bulk	Brown CLAY with Occasional Gravel

Certified that the Moisture Content were determined in accordance with BS1377-2:1990 3.2

Signed:



Darren Berrill - General Manager
for and on behalf of SOCOTEC UK Limited

Liquid and Plastic Limits and Plasticity Indices

Report No: DAM0088191/401/M1 **Report Date:** 5 September 2022

Client: ENVIROSOLUTION LIMITED **Our Contract Ref:** 51070757

Address: SUITE 5 THE QUAY
NO 12 PRINCES DOCK
LIVERPOOL WATERS
L3 1DL
GB **Tested By:** SOCOTEC Central

Client Contact: Not Advised **Date Sampled:** 15 Jul 2022

Site: Halewood **Date Received:** 15 Jul 2022

Material Supplier: Client **Date Tested:** 26 Aug 2022

Material Source: Site **Sample Type:** BULK

Method of preparation: BS1377-1:1990 7.4.3 & BS 1377-2:1990 4.2 **Sampling Certificate:** Not Received

Samples Submitted by: Client

Sampled by: Client

Results:

Sample Reference	Client's Ref	Location	Description	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing on 425 µm
45412386	2	WS1 @ 0.5m	Brown CLAY with Occasional Gravel	12	26	13	13	**100
45412387	3	CP1 @ 1.2m	Brown CLAY with Occasional Gravel	13	25	13	12	**100
45412388	4	CP1 @ 3.0m	Brown CLAY with Occasional Gravel	12	25	13	12	**100
45412395	11	WS3 @ 1.5m	Brown CLAY with Occasional Gravel	13	24	12	12	**100
45412401	17	CP3 @ 19.5-19.95	Brown CLAY with Occasional Gravel	15	34	15	19	**100

* Washed over 425µm BS Test Sieve

** As received, coarse particles removed by hand prior to test

Certified that the Liquid and Plastic Limits and Plasticity Indices were determined in accordance with BS1377-2:1990 Clauses 4.4, 5.0 and 5.4 respectively
Certified that the Moisture Content was determined in accordance with BS1377-2:1990 3.2

Signed:



Darren Berrill - General Manager
for and on behalf of SOCOTEC UK Limited

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TESTS WITHOUT MEASUREMENT OF PORE PRESSURE - SUMMARY OF RESULTS

[illegible]

General notes:

Tests carried out in accordance with BS1377: Part 7: 1990, clause 8 for single stage, clause 9 for multistage tests. Specimens nominally 2:1 height diameter ratio and tested at a rate of strain of 2%/minute, unless annotated otherwise. Latex rubber membrane used and membrane correction applied in accordance with BS1377-7 8.5.1.4 unless stated. Tested from base depth and in a vertical orientation unless stated otherwise.

Legend	UU - single stage test (may be in sets of specimens)
	UUM - multistage test on a single specimen
	suffix R - remoulded or recompacted

σ_3	cell pressure	Mode of failure	P	plastic
$\sigma_1 - \sigma_3$	deviator stress		B	brittle
c_u	undrained shear strength		C	compound

QA Ref
SLR 2
Rev 2.8
Apr 19



Project No	DAM0088191
Project Name	Halewood - Enviro Solutions

Figure

UUSUM

The results reported relate only to the samples tested; opinions and interpretations expressed herein are outside the scope of UKAS accreditation. © Copyright 2019 SOCOTEC UK Limited

Printed: 15/09/2022 16:19

Appendix I – Tier 1 Human Health Assessment

Sample Location:				WS1	WS1	WS2	WS2	WS3	WS4	WS4	WS5	WS6	WS7	WS8	WS9	WS10	CP2	CP2
Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Top Depth (m):				0.40m	1.20m	1.00m	1.20m	0.50m	0.30m	1.20m	0.50m	1.00m	0.60m	0.40m	1.0m	0.60m	0.40m	1.00m
Date Sampled:				27-Jun-2022	27-Jun-2022	29-Jun-2022	29-Jun-2022	28-Jun-2022	28-Jun-2022	28-Jun-2022	29-Jun-2022	29-Jun-2022	29-Jun-2022	30-Jun-2022	30-Jun-2022	30-Jun-2022	03-Jul-2022	03-Jul-2022
Determinand	Units	LOD	GAC															
Moisture	%	0.020		5.2	9.9	7.5	7.6	7.2	7.2	11	10	13	11	9.6	19	9.1	8.3	12
pH		4.0		11.9	9.8	9.0	8.8	9.6	10.2	9.8	11.3	9.4	9.2	9.0	7.9	8.6	9.7	9.5
Heavy Metals																		
Arsenic	mg/kg	0.5	640	2.2	3.4	6.0	4.9	1.1	2.9	2.5	4.7	5.0	15	27	6.1	5.0	11	1.8
Cadmium	mg/kg	0.10	190	0.15	< 0.10	0.17	0.23	< 0.10	< 0.10	< 0.10	0.16	< 0.10	0.20	0.21	< 0.10	< 0.10	0.43	< 0.10
Chromium	mg/kg	0.5	8600	5.6	12	11	11	5.9	8.2	10	14	16	8.8	11	9.5	7.5	180	13
Copper	mg/kg	0.50	68000	7.1	7.4	11	11	3.7	8.7	5.4	19	9.1	25	50	20	7.8	31	6.2
Mercury	mg/kg	0.05	58	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	< 0.05	0.07	< 0.05
Nickel	mg/kg	0.50	980	7.6	15	16	16	5.9	7.9	13	15	16	14	19	9.7	11	20	14
Lead	mg/kg	0.50	2300	16	6.3	20	21	5.0	5.3	3.2	48	13	24	30	50	8.5	110	4.2
Selenium	mg/kg	0.25	12000	0.25	< 0.25	0.36	0.56	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	0.38	< 0.25	< 0.25	0.53	< 0.25
Zinc	mg/kg	0.50	730000	21	17	35	43	22	16	15	55	21	43	57	61	17	120	16
TPH CWG																		
Aliphatic TPH >C10-C12	mg/kg	1.0	9700	< 1.0	< 1.0	6.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	mg/kg	1.0	59000	< 1.0	< 1.0	47	14	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	mg/kg	1.0	1600000	< 1.0	< 1.0	58	46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	mg/kg	1.0	1600000	< 1.0	< 1.0	200	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	mg/kg	5.0		< 5.0	< 5.0	310	260	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C12-C16	mg/kg	1.0	36000	< 1.0	< 1.0	58	75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	mg/kg	1.0	28000	< 1.0	< 1.0	350	330	< 1.0	< 1.0	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	mg/kg	1.0	28000	< 1.0	< 1.0	2300	1700	< 1.0	< 1.0	< 1.0	110	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	mg/kg	1.0	28000	< 1.0	< 1.0	< 1.0	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	mg/kg	5.0		< 5.0	< 5.0	2700	2100	< 5.0	< 5.0	< 5.0	120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	mg/kg	10.0		< 10	< 10	3100	2400	< 10	< 10	< 10	120	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SVOCs																		
Acenaphthene	mg/kg	0.50	84000	< 0.50	< 0.50	< 0.50	2.4	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenanthrene	mg/kg	0.50	22000	< 0.50	< 0.50	2.2	6.1	3.7	< 0.50	< 0.50	0.83	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.69	< 0.50
Anthracene	mg/kg	0.50	520000	< 0.50	< 0.50	1.1	4.4	1.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fluoranthene	mg/kg	0.50	23000	< 0.50	< 0.50	17	79	6.1	0.52	< 0.50	1.2	0.65	< 0.50	6.6	< 0.50	< 0.50	1.1	< 0.50
Pyrene	mg/kg	0.50	540000	< 0.50	< 0.50	16	71	4.8	< 0.50	< 0.50	1.1	0.77	< 0.50	6.6	< 0.50	< 0.50	0.98	< 0.50
Benzo[a]anthracene	mg/kg	0.50	170	< 0.50	< 0.50	7.3	31	2.5	< 0.50	< 0.50	0.58	< 0.50	< 0.50	3.1	< 0.50	< 0.50	0.50	< 0.50
Chrysene	mg/kg	0.50	350	< 0.50	< 0.50	7.1	29	2.2	< 0.50	< 0.50	0.55	< 0.50	< 0.50	3.1	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[b]fluoranthene	mg/kg	0.50	44	< 0.50	< 0.50	11	38	3.0	1.3	< 0.50	0.72	0.50	< 0.50	5.9	< 0.50	< 0.50	0.67	< 0.50
Benzo[k]fluoranthene	mg/kg	0.50	1200	< 0.50	< 0.50	4.1	13	1.1	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	2.1	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[a]pyrene	mg/kg	0.50	35	< 0.50	< 0.50	9.0	29	2.4	< 0.50	< 0.50	0.58	< 0.50	< 0.50	4.6	< 0.50	< 0.50	0.56	< 0.50
Indeno(1,2,3-c,d)Pyrene	mg/kg	0.50	500	< 0.50	< 0.50	5.6	16	1.3	< 0.85	< 0.50	< 0.50	< 0.50	< 0.50	3.0	< 0.50	< 0.50	< 0.50	< 0.50
Dibenz(a,h)Anthracene	mg/kg	0.50	3.5	< 0.50	< 0.50	1.3	5.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Benzo[g,h,i]perylene	mg/kg	0.50	3900	< 0.50	< 0.50	6.2	18	1.4	0.99	< 0.50	< 0.50	< 0.50	< 0.50	3.4	< 0.50	< 0.50	< 0.50	< 0.50
Notes:																		
Only those determinands that have been detected at concentrations in excess of LoD have been included in the table																		
GAC = Human health generic assessment criteria for commercial land use																		
	GAC Exceedance																	

Appendix J – Controlled Waters Risk Assessment

	Client Sample ID.:				CP3	WS10A	WS3	CP2	CP1	WS2	WS1
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):				10m	3m	3m	10m	10m	3m	3m
	Date Sampled:				13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
Determinand	Units	LOD	UK Drinking Water Standrds	Freshwater GAC							
pH		N/A			7.8	7.9	9.5	8.0	7.8	7.9	9.1
Sulphate	mg/l	1.0	250		27	1200	100	170	140	1500	440
Total Hardness as CaCO3	mg/l	15			670	1500	350	580	570	1300	470
Heavy Metals											
Arsenic (Dissolved)	µg/l	0.20	10	50	0.65	< 0.20	2.3	0.49	6.8	1.0	1.2
Cadmium (Dissolved)	µg/l	0.11	5	0.25	0.13	0.20	< 0.11	< 0.11	< 0.11	0.22	< 0.11
Chromium (Dissolved)	µg/l	0.50		3.4	2.2	0.80	21	1.8	< 0.50	2.9	8.1
Copper (Dissolved)	µg/l	0.50	2000	1	2.8	1.9	9.7	0.76	< 0.50	1.6	3.0
Nickel (Dissolved)	µg/l	0.50	20	4	2.6	5.2	3.7	1.7	2.0	2.8	3.2
Selenium (Dissolved)	µg/l	0.50	10		< 0.50	25	7.3	< 0.50	< 0.50	4.6	7.7
Zinc (Dissolved)	µg/l	2.5	5000	10.9	< 2.5	3.6	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Notes:											
Only those determinands that have been detected at concentrations in excess of LoD have been included in the table											
	GAC Exceedance (UK Drinking Water Standards)										
	GAC Exceedance Freshwater										

Appendix K – Waste Classification Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

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



8KGYW-EXX3V-XWE8K

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

Job name

Untitled 75565

Description/Comments

Natural Ground

Project

Jaguar Landrover

Site

Halewood

Classified by

Name:
Gemma Lucas
Date:
16 Aug 2022 13:48 GMT
Telephone:
0151 291 6451

Company:
Envirosolution
The Quay Suite 5, No 12 Princes Dock,
Liverpool Waters
Liverpool
L3 1DL

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:

Course
Hazardous Waste Classification

Date

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1	1.20	Non Hazardous		2
2	WS4	1.20	Non Hazardous		4
3	WS6	1.00	Non Hazardous		6
4	WS9	1.0	Non Hazardous		8
5	CP2	1.00	Non Hazardous		10

Related documents

#	Name	Description
1	Haz Waste Assessment	waste stream template used to create this Job

Report

Created by: Gemma Lucas

Created date: 16 Aug 2022 13:48 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	12
Appendix B: Rationale for selection of metal species	13
Appendix C: Version	13

Classification of sample: WS1


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

Sample details

Sample name:	LoW Code:
WS1	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.20 m	
Moisture content:	
9.9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.8 pH		9.8	pH	9.8 pH		
2	arsenic { arsenic trioxide }				3.4 mg/kg	1.32	4.085	mg/kg	0.000408 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				12 mg/kg		10.919	mg/kg	0.00109 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				7.4 mg/kg	3.929	26.456	mg/kg	0.00265 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				15 mg/kg	2.976	40.622	mg/kg	0.00406 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	6.3 mg/kg	1.56	8.942	mg/kg	0.000573 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				17 mg/kg	2.774	42.912	mg/kg	0.00429 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0149 %		

Key

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

Classification of sample: WS4


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

Sample details

Sample name:	LoW Code:
WS4	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.20 m	
Moisture content:	
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.8 pH		9.8	pH	9.8 pH		
2	arsenic { arsenic trioxide }				2.5 mg/kg	1.32	2.974	mg/kg	0.000297 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				10 mg/kg		9.009	mg/kg	0.000901 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				5.4 mg/kg	3.929	19.114	mg/kg	0.00191 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				13 mg/kg	2.976	34.857	mg/kg	0.00349 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	3.2 mg/kg	1.56	4.497	mg/kg	0.000288 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				15 mg/kg	2.774	37.488	mg/kg	0.00375 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0124 %		

Key

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

Classification of sample: WS6


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

Sample details

Sample name:	LoW Code:
WS6	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.00 m	
Moisture content:	
13%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.4 pH		9.4	pH	9.4 pH		
2	arsenic { arsenic trioxide }				5 mg/kg	1.32	5.842	mg/kg	0.000584 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				16 mg/kg		14.159	mg/kg	0.00142 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				9.1 mg/kg	3.929	31.641	mg/kg	0.00316 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				16 mg/kg	2.976	42.142	mg/kg	0.00421 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	13 mg/kg	1.56	17.945	mg/kg	0.00115 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				21 mg/kg	2.774	51.555	mg/kg	0.00516 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		0.65 mg/kg		0.575 mg/kg	0.0000575 %	✓	
21	pyrene	204-927-3	129-00-0		0.77 mg/kg		0.681 mg/kg	0.0000681 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0175 %		

Key

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

Classification of sample: WS9


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

Sample details

Sample name:	LoW Code:
WS9	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.0 m	
Moisture content:	
19%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.9 pH		7.9 pH	7.9 pH		
2	arsenic { arsenic trioxide }				6.1 mg/kg	1.32	6.768 mg/kg	0.000677 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129 mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium(III) oxide (worst case)				9.5 mg/kg		7.983 mg/kg	0.000798 %	✓	
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				20 mg/kg	3.929	66.035 mg/kg	0.0066 %	✓	
	029-023-00-4	231-847-6	7758-99-8							
6	mercury { mercury dichloride }				0.07 mg/kg	1.353	0.0796 mg/kg	0.00000796 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel chromate }				9.7 mg/kg	2.976	24.26 mg/kg	0.00243 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
8	lead { lead chromate }			1	50 mg/kg	1.56	65.538 mg/kg	0.0042 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351 mg/kg	<0.0000351 %		<LOD
	034-002-00-8									
10	zinc { zinc chromate }				61 mg/kg	2.774	142.204 mg/kg	0.0142 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
12	confirm TPH has NOT arisen from diesel or petrol				☒					
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
14	naphthalene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
15	acenaphthylene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8							
16	acenaphthene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0307 %		

Key

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

Classification of sample: CP2


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

Sample details

Sample name:	LoW Code:
CP2	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.00 m	
Moisture content:	
12%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.5 pH		9.5	pH	9.5 pH		
2	arsenic { arsenic trioxide }				1.8 mg/kg	1.32	2.122	mg/kg	0.000212 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				13 mg/kg		11.607	mg/kg	0.00116 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				6.2 mg/kg	3.929	21.75	mg/kg	0.00218 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				14 mg/kg	2.976	37.203	mg/kg	0.00372 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	4.2 mg/kg	1.56	5.849	mg/kg	0.000375 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulfoxeselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				16 mg/kg	2.774	39.631	mg/kg	0.00396 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0134 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

▪ **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

▪ **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

copper {copper sulphate pentahydrate}

(enter justification for selecting this species)

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel chromate}

(enter justification for selecting this species)

lead {lead chromate}

(enter justification for selecting this species)

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

(enter justification for selecting this species)

zinc {zinc chromate}

(enter justification for selecting this species)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2022.222.5292.9906 (10 Aug 2022)

HazWasteOnline Database: 2022.220.5285.9900 (08 Aug 2022)

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

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

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



DNMSY-10TTX-IOL8V

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

Job name

Untitled 75563

Description/Comments

Made Ground

Project

Jaguar Landrover

Site

Halewood

Classified by

Name: **Gemma Lucas**
 Date: **16 Aug 2022 13:36 GMT**
 Telephone: **0151 291 6451**

Company: **Envirosolution**
The Quay Suite 5, No 12 Princes Dock,
Liverpool Waters
L3 1DL

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:

Course
 Hazardous Waste Classification

Date

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1	0.40	Hazardous	HP 8	2
2	WS2	1.00	Hazardous	HP 7, HP 11	4
3	WS2[2]	1.20	Hazardous	HP 7, HP 11	7
4	WS3	0.50	Non Hazardous		10
5	WS4	0.30	Non Hazardous		12
6	WS5	0.50	Non Hazardous		14
7	WS7	0.60	Non Hazardous		16
8	WS8	0.40	Non Hazardous		18
9	WS10	0.60	Non Hazardous		20
10	CP2	0.40	Non Hazardous		22

Related documents

#	Name	Description
1	Haz Waste Assessment	waste stream template used to create this Job

Report

Created by: Gemma Lucas

Created date: 16 Aug 2022 13:36 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	24
Appendix B: Rationale for selection of metal species	25
Appendix C: Version	25

Classification of sample: WS1

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

Sample details

Sample name:	LoW Code:
WS1	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.40 m	
Moisture content:	
5.2%	
(dry weight correction)	

Hazard properties

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

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

Because of determinand:

pH: (conc.: 11.9 pH)

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				11.9	pH		11.9	pH	11.9 pH		
2	arsenic { arsenic trioxide }				2.2	mg/kg	1.32	2.761	mg/kg	0.000276 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	0.15	mg/kg	1.285	0.183	mg/kg	0.0000143 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
4	chromium(III) oxide (worst case)				5.6	mg/kg		5.323	mg/kg	0.000532 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				7.1	mg/kg	3.929	26.517	mg/kg	0.00265 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				7.6	mg/kg	2.976	21.502	mg/kg	0.00215 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	16	mg/kg	1.56	23.723	mg/kg	0.00152 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				0.25	mg/kg	1.405	0.334	mg/kg	0.0000334 %	✓	
	034-002-00-8											
10	zinc { zinc chromate }				21	mg/kg	2.774	55.377	mg/kg	0.00554 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
12	confirm TPH has NOT arisen from diesel or petrol				☒							
13	benzo[a]pyrene; benzo[def]chrysene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8									
14	naphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	● acenaphthylene	205-917-1	208-96-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
16	● acenaphthene	201-469-6	83-32-9		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
17	● fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	● phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	● anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	● fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	● pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	● benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	● indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0145 %		

Key

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

Classification of sample: WS2

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

Sample details

Sample name:	LoW Code:
WS2	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
1.00 m	
Moisture content:	
7.5%	
(dry weight correction)	

Hazard properties

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.: 0.288%)

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.: 0.288%)

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				9 pH		9 pH	9pH		
2	arsenic { arsenic trioxide }				6 mg/kg	1.32	7.369 mg/kg	0.000737 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	0.17 mg/kg	1.285	0.203 mg/kg	0.0000158 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
4	chromium(III) oxide (worst case)				11 mg/kg		10.233 mg/kg	0.00102 %	✓	
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				11 mg/kg	3.929	40.204 mg/kg	0.00402 %	✓	
	029-023-00-4	231-847-6	7758-99-8							
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel chromate }				16 mg/kg	2.976	44.298 mg/kg	0.00443 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
8	lead { lead chromate }			1	20 mg/kg	1.56	29.02 mg/kg	0.00186 %	✓	
	082-004-00-2	231-846-0	7758-97-6							

#	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								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.36 mg/kg	1.405	0.471 mg/kg		0.0000471 %	✓	
	034-002-00-8										
10	zinc { zinc chromate }				35 mg/kg	2.774	90.321 mg/kg		0.00903 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				3100 mg/kg		2883.721 mg/kg		0.288 %	✓	
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				9 mg/kg		8.372 mg/kg		0.000837 %	✓	
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5 mg/kg		<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5 mg/kg		<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5 mg/kg		<0.00005 %		<LOD
		201-469-6	83-32-9								
17	fluorene				<0.5 mg/kg		<0.5 mg/kg		<0.00005 %		<LOD
		201-695-5	86-73-7								
18	phenanthrene				2.2 mg/kg		2.047 mg/kg		0.000205 %	✓	
		201-581-5	85-01-8								
19	anthracene				1.1 mg/kg		1.023 mg/kg		0.000102 %	✓	
		204-371-1	120-12-7								
20	fluoranthene				17 mg/kg		15.814 mg/kg		0.00158 %	✓	
		205-912-4	206-44-0								
21	pyrene				16 mg/kg		14.884 mg/kg		0.00149 %	✓	
		204-927-3	129-00-0								
22	benzo[a]anthracene				7.3 mg/kg		6.791 mg/kg		0.000679 %	✓	
	601-033-00-9	200-280-6	56-55-3								
23	chrysene				7.1 mg/kg		6.605 mg/kg		0.00066 %	✓	
	601-048-00-0	205-923-4	218-01-9								
24	benzo[k]fluoranthene				4.1 mg/kg		3.814 mg/kg		0.000381 %	✓	
	601-036-00-5	205-916-6	207-08-9								
25	dibenz[a,h]anthracene				1.3 mg/kg		1.209 mg/kg		0.000121 %	✓	
	601-041-00-2	200-181-8	53-70-3								
26	benzo[ghi]perylene				6.2 mg/kg		5.767 mg/kg		0.000577 %	✓	
		205-883-8	191-24-2								
27	indeno[123-cd]pyrene				5.6 mg/kg		5.209 mg/kg		0.000521 %	✓	
		205-893-2	193-39-5								
Total:									0.317 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not a liquid

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.288%)

Classification of sample: WS2[2]

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

Sample details

Sample name:	LoW Code:
WS2[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
1.20 m	
Moisture content:	
7.6%	
(dry weight correction)	

Hazard properties

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.: 0.223%)

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.: 0.223%)

Determinands

Moisture content: 7.6% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH		PH		8.8	pH		8.8	pH	8.8 pH		
2	arsenic { arsenic trioxide }				4.9	mg/kg	1.32	6.013	mg/kg	0.000601 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	0.23	mg/kg	1.285	0.275	mg/kg	0.0000214 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
4	chromium(III) oxide (worst case)				11	mg/kg		10.223	mg/kg	0.00102 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				11	mg/kg	3.929	40.167	mg/kg	0.00402 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				16	mg/kg	2.976	44.257	mg/kg	0.00443 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	21	mg/kg	1.56	30.442	mg/kg	0.00195 %	✓	
	082-004-00-2	231-846-0	7758-97-6									

#		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									
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.56	mg/kg	1.405	0.731	mg/kg	0.0000731 %	✓	
		034-002-00-8											
10		zinc { zinc chromate }				43	mg/kg	2.774	110.863	mg/kg	0.0111 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		TPH (C6 to C40) petroleum group				2400	mg/kg		2230.483	mg/kg	0.223 %	✓	
				TPH									
12		confirm TPH has NOT arisen from diesel or petrol				☒							
13		benzo[a]pyrene; benzo[def]chrysene				29	mg/kg		26.952	mg/kg	0.0027 %	✓	
		601-032-00-3	200-028-5	50-32-8									
14		naphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
15		acenaphthylene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
			205-917-1	208-96-8									
16		acenaphthene				2.4	mg/kg		2.23	mg/kg	0.000223 %	✓	
			201-469-6	83-32-9									
17		fluorene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
			201-695-5	86-73-7									
18		phenanthrene				6.1	mg/kg		5.669	mg/kg	0.000567 %	✓	
			201-581-5	85-01-8									
19		anthracene				4.4	mg/kg		4.089	mg/kg	0.000409 %	✓	
			204-371-1	120-12-7									
20		fluoranthene				79	mg/kg		73.42	mg/kg	0.00734 %	✓	
			205-912-4	206-44-0									
21		pyrene				71	mg/kg		65.985	mg/kg	0.0066 %	✓	
			204-927-3	129-00-0									
22		benzo[a]anthracene				31	mg/kg		28.81	mg/kg	0.00288 %	✓	
		601-033-00-9	200-280-6	56-55-3									
23		chrysene				29	mg/kg		26.952	mg/kg	0.0027 %	✓	
		601-048-00-0	205-923-4	218-01-9									
24		benzo[k]fluoranthene				13	mg/kg		12.082	mg/kg	0.00121 %	✓	
		601-036-00-5	205-916-6	207-08-9									
25		dibenz[a,h]anthracene				5.3	mg/kg		4.926	mg/kg	0.000493 %	✓	
		601-041-00-2	200-181-8	53-70-3									
26		benzo[ghi]perylene				18	mg/kg		16.729	mg/kg	0.00167 %	✓	
			205-883-8	191-24-2									
27		indeno[123-cd]pyrene				16	mg/kg		14.87	mg/kg	0.00149 %	✓	
			205-893-2	193-39-5									
Total:											0.275 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not a liquid

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.223%)

Classification of sample: WS3


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

Sample details

Sample name:	LoW Code:
WS3	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m	
Moisture content:	
7.2%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.6 pH		9.6	pH	9.6 pH		
2	arsenic { arsenic trioxide }				1.1 mg/kg	1.32	1.355	mg/kg	0.000135 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				5.9 mg/kg		5.504	mg/kg	0.00055 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				3.7 mg/kg	3.929	13.561	mg/kg	0.00136 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				5.9 mg/kg	2.976	16.381	mg/kg	0.00164 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	5 mg/kg	1.56	7.275	mg/kg	0.000466 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				22 mg/kg	2.774	56.932	mg/kg	0.00569 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				2.4 mg/kg		2.239	mg/kg	0.000224 %	✓	
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		3.7 mg/kg		3.451 mg/kg	0.000345 %	✓	
19	anthracene	204-371-1	120-12-7		1.6 mg/kg		1.493 mg/kg	0.000149 %	✓	
20	fluoranthene	205-912-4	206-44-0		6.1 mg/kg		5.69 mg/kg	0.000569 %	✓	
21	pyrene	204-927-3	129-00-0		4.8 mg/kg		4.478 mg/kg	0.000448 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		2.5 mg/kg		2.332 mg/kg	0.000233 %	✓	
23	chrysene	601-048-00-0	205-923-4		2.2 mg/kg		2.052 mg/kg	0.000205 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		1.1 mg/kg		1.026 mg/kg	0.000103 %	✓	
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		1.4 mg/kg		1.306 mg/kg	0.000131 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		1.3 mg/kg		1.213 mg/kg	0.000121 %	✓	
Total:								0.0137 %		

Key

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

Classification of sample: WS4


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

Sample details

Sample name:	LoW Code:
WS4	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30 m	
Moisture content:	
7.2%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				10.2	pH		10.2	pH	10.2 pH		
2	arsenic { arsenic trioxide }				2.9	mg/kg	1.32	3.572	mg/kg	0.000357 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	<0.1	mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
4	chromium(III) oxide (worst case)				8.2	mg/kg		7.649	mg/kg	0.000765 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				8.7	mg/kg	3.929	31.887	mg/kg	0.00319 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				7.9	mg/kg	2.976	21.933	mg/kg	0.00219 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	5.3	mg/kg	1.56	7.712	mg/kg	0.000494 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25	mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				16	mg/kg	2.774	41.405	mg/kg	0.00414 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
12	confirm TPH has NOT arisen from diesel or petrol				☒							
13	benzo[a]pyrene; benzo[def]chrysene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8									
14	naphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	acenaphthylene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8									
16	acenaphthene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		0.52 mg/kg		0.485 mg/kg	0.0000485 %	✓	
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		0.99 mg/kg		0.924 mg/kg	0.0000924 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.85 mg/kg		0.793 mg/kg	0.0000793 %	✓	
Total:								0.013 %		

Key

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

Classification of sample: WS5


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

Sample details

Sample name:	LoW Code:
WS5	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.50 m	
Moisture content:	
10%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				11.3 pH		11.3	pH	11.3 pH		
2	arsenic { arsenic trioxide }				4.7 mg/kg	1.32	5.641	mg/kg	0.000564 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	0.16 mg/kg	1.285	0.187	mg/kg	0.0000145 %	✓	
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				14 mg/kg		12.727	mg/kg	0.00127 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				19 mg/kg	3.929	67.865	mg/kg	0.00679 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				15 mg/kg	2.976	40.585	mg/kg	0.00406 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	48 mg/kg	1.56	68.065	mg/kg	0.00436 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				55 mg/kg	2.774	138.707	mg/kg	0.0139 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				120 mg/kg		109.091	mg/kg	0.0109 %	✓	
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				0.58 mg/kg		0.527	mg/kg	0.0000527 %	✓	
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.83 mg/kg		0.755 mg/kg	0.0000755 %	✓	
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		1.2 mg/kg		1.091 mg/kg	0.000109 %	✓	
21	pyrene	204-927-3	129-00-0		1.1 mg/kg		1 mg/kg	0.0001 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		0.58 mg/kg		0.527 mg/kg	0.0000527 %	✓	
23	chrysene	601-048-00-0	205-923-4		0.55 mg/kg		0.5 mg/kg	0.00005 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0428 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Not a liquid

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0109%)

Classification of sample: WS7


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

Sample details

Sample name:	LoW Code:
WS7	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.60 m	
Moisture content:	
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.2	pH		9.2	pH	9.2 pH		
2	arsenic { arsenic trioxide }				15	mg/kg	1.32	17.842	mg/kg	0.00178 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.232	mg/kg	0.000018 %	✓	
	048-010-00-4	215-147-8	1306-23-6									
4	chromium(III) oxide (worst case)				8.8	mg/kg		7.928	mg/kg	0.000793 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				25	mg/kg	3.929	88.492	mg/kg	0.00885 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				14	mg/kg	2.976	37.538	mg/kg	0.00375 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	24	mg/kg	1.56	33.726	mg/kg	0.00216 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25	mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				43	mg/kg	2.774	107.467	mg/kg	0.0107 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
12	confirm TPH has NOT arisen from diesel or petrol				☒							
13	benzo[a]pyrene; benzo[def]chrysene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8									
14	naphthalene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	acenaphthylene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8									
16	acenaphthene				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0299 %		

Key

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

Classification of sample: WS8


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

Sample details

Sample name:	LoW Code:
WS8	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	
Moisture content:	
9.6%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				9 pH		9 pH	9pH		
2	arsenic { arsenic trioxide }				27 mg/kg	1.32	32.526 mg/kg	0.00325 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	0.21 mg/kg	1.285	0.246 mg/kg	0.0000192 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
4	chromium(III) oxide (worst case)				11 mg/kg		10.036 mg/kg	0.001 %	✓	
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				50 mg/kg	3.929	179.245 mg/kg	0.0179 %	✓	
	029-023-00-4	231-847-6	7758-99-8							
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel chromate }				19 mg/kg	2.976	51.596 mg/kg	0.00516 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
8	lead { lead chromate }			1	30 mg/kg	1.56	42.696 mg/kg	0.00274 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.38 mg/kg	1.405	0.487 mg/kg	0.0000487 %	✓	
	034-002-00-8									
10	zinc { zinc chromate }				57 mg/kg	2.774	144.276 mg/kg	0.0144 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
12	confirm TPH has NOT arisen from diesel or petrol				☒					
13	benzo[a]pyrene; benzo[def]chrysene				4.6 mg/kg		4.197 mg/kg	0.00042 %	✓	
	601-032-00-3	200-028-5	50-32-8							
14	naphthalene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
15	acenaphthylene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8							
16	acenaphthene				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		6.6 mg/kg		6.022 mg/kg	0.000602 %	✓	
21	pyrene	204-927-3	129-00-0		6.6 mg/kg		6.022 mg/kg	0.000602 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		3.1 mg/kg		2.828 mg/kg	0.000283 %	✓	
23	chrysene	601-048-00-0	205-923-4		3.1 mg/kg		2.828 mg/kg	0.000283 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		2.1 mg/kg		1.916 mg/kg	0.000192 %	✓	
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		3.4 mg/kg		3.102 mg/kg	0.00031 %	✓	
27	indeno[123-cd]pyrene	205-893-2	193-39-5		3 mg/kg		2.737 mg/kg	0.000274 %	✓	
Total:								0.0489 %		

Key

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

Classification of sample: WS10


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

Sample details

Sample name:	LoW Code:
WS10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.60 m	
Moisture content:	
9.1%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				8.6 pH		8.6	pH	8.6 pH		
2	arsenic { arsenic trioxide }				5 mg/kg	1.32	6.051	mg/kg	0.000605 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	<0.1 mg/kg	1.285	<0.129	mg/kg	<0.00001 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				7.5 mg/kg		6.874	mg/kg	0.000687 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				7.8 mg/kg	3.929	28.09	mg/kg	0.00281 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				11 mg/kg	2.976	30.008	mg/kg	0.003 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	8.5 mg/kg	1.56	12.153	mg/kg	0.000779 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.25 mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
	034-002-00-8										
10	zinc { zinc chromate }				17 mg/kg	2.774	43.227	mg/kg	0.00432 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.014 %		

Key

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

Classification of sample: CP2


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

Sample details

Sample name:	LoW Code:
CP2	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	
Moisture content:	
8.3%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	pH				9.7 pH		9.7	pH	9.7 pH		
2	arsenic { arsenic trioxide }				11 mg/kg	1.32	13.411	mg/kg	0.00134 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium sulfide }			1	0.43 mg/kg	1.285	0.51	mg/kg	0.0000397 %	✓	
	048-010-00-4	215-147-8	1306-23-6								
4	chromium(III) oxide (worst case)				180 mg/kg		166.205	mg/kg	0.0166 %	✓	
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				31 mg/kg	3.929	112.466	mg/kg	0.0112 %	✓	
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				0.07 mg/kg	1.353	0.0875	mg/kg	0.00000875 %	✓	
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				20 mg/kg	2.976	54.963	mg/kg	0.0055 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	110 mg/kg	1.56	158.43	mg/kg	0.0102 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.53 mg/kg	1.405	0.688	mg/kg	0.0000688 %	✓	
	034-002-00-8										
10	zinc { zinc chromate }				120 mg/kg	2.774	307.385	mg/kg	0.0307 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	confirm TPH has NOT arisen from diesel or petrol				☒						
13	benzo[a]pyrene; benzo[def]chrysene				0.56 mg/kg		0.517	mg/kg	0.0000517 %	✓	
	601-032-00-3	200-028-5	50-32-8								
14	naphthalene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		205-917-1	208-96-8								
16	acenaphthene				<0.5 mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		201-469-6	83-32-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	fluorene	201-695-5	86-73-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.69 mg/kg		0.637 mg/kg	0.0000637 %	✓	
19	anthracene	204-371-1	120-12-7		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
20	fluoranthene	205-912-4	206-44-0		1.1 mg/kg		1.016 mg/kg	0.000102 %	✓	
21	pyrene	204-927-3	129-00-0		0.98 mg/kg		0.905 mg/kg	0.0000905 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6		0.5 mg/kg		0.462 mg/kg	0.0000462 %	✓	
23	chrysene	601-048-00-0	205-923-4		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
Total:								0.0776 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

▪ **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

▪ **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

copper {copper sulphate pentahydrate}

(enter justification for selecting this species)

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel chromate}

(enter justification for selecting this species)

lead {lead chromate}

(enter justification for selecting this species)

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

(enter justification for selecting this species)

zinc {zinc chromate}

(enter justification for selecting this species)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2022.222.5292.9906 (10 Aug 2022)

HazWasteOnline Database: 2022.220.5285.9900 (08 Aug 2022)

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

