APPENDIX A

BSL Methodology and Guidance

BSL Phase I & II Geo-Environmental Assessment Reports - Methodology and Guidance

Background

This Appendix provides information on the approaches, methods and guidance used by Brownfield Solutions Ltd in the preparation of this report.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential soils and groundwater contamination). The term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). It should be noted that this is an integrated investigation and these two main aspects are related, unless otherwise specified within the report.

Phase I reports are written in general accordance with the description of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and are also produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

The first stage of the investigation and assessment of a site is the Preliminary Investigation/Tier 1 Preliminary Risk Assessment, often referred to as a Phase 1 Desk Study, comprising a desk study and walk-over survey and collation of desk-based searches, which culminates in the Preliminary Risk Assessment and the development of a preliminary/initial **Conceptual Site Model (CSM)**. From this are identified any potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. In the case of the geotechnical hazard identification, this is referred to as the **Ground Model.**

From the geo-environmental perspective, the hazard Identification process uses professional judgement to evaluate all the hazards in terms of possible contaminant linkages (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment as part of Phase II investigations and reports.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The Ground Investigation comprises field work and laboratory testing based on the findings of the Preliminary Risk Assessment, to reduce uncertainty in the geotechnical and geo-environmental hazard identification. This may include an exploratory, a detailed or/and supplementary Investigations as described in BS 10175:2011+A2:2017. Phase II Assessments are produced in general accordance with the recommendations for a Tier 2 Generic Quantitative Risk Assessment as described in LCRM guidance and are also intended to fulfil the requirements of a Ground Investigation Report (GIR) as detailed in BS EN 1997-2:2007.

Contaminated Land - Legislative Background

Land contamination can be addressed in several ways, e.g. during planning, under Part 2A, following an incident, during an investigation into environmental damages, or during the application of an environmental permit, or its surrender.

For the planning process the key test is **as a minimum the site cannot be determined as contaminated land**, e.g. there is not significant harm, significant possibility of significant harm to human health or that there is not significant harm to, or the significant possibility that the pollution of controlled waters will occur.

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act.
- The Contaminated Land Statutory Guidance, DEFRA – April 2012.
- The Contaminated Land (England) Regulations 2006.
- The Contaminated Land (England) Amendment Regulations 2012.
- Water Resources Act.
- Water Framework Directive.
- Environmental Damage Regulations.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM) 2019.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused.
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

Source - substances that are potential contaminants or pollutants that may cause harm.
Pathway - a potential route by which contaminants can move from the source to the receptor, and the impact of that migration on the source e.g. attenuation.
Receptor - a receptor that may be harmed, for example the water environment, humans and water, considering the sensitivity of the receptor.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused.



Where any one of the “pollution linkages” between the above is absent there is deemed to be no risk.

The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the S-P-R approach is ‘suitable for use’ criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents
This report has been prepared in accordance with the list of guidance below, however the list is not exhaustive:

- DETR: Circular 02/2000: Environmental Protection Act 1990: Part IIA: Contaminated land. 2012.
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002.
- BS 10175:2011+A2:2017.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.
- Groundwater Protection https://www.gov.uk/government/collections/groundwater-protection
- UK Technical Advisory Group (UKTAG) - Water Framework Directive
- Incidents and their classification: the Common Incident Classification Scheme (CICS) – Used by the Environment Agency to classify pollution incidents.

Relevant Legislative Documents
The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012).
- The Environment Protection Act (1990).
- The Water Resources Act (1991).
- The Environment Act (1995).
- The Contaminated Land (England) Act (2000).
- The Pollution Prevention and Control (England and Wales) Regulations (2000).
- The Landfill Regulations (England and Wales) Regulations (2002).
- The Landfill (England and Wales) (Amendment) Regulations (2004).
- Contaminated Land (England) Regulations (2012).
- The Environmental Damage (Prevention and Remediation) Regulations (2009).
- Environmental Permitting Regulations (England and Wales) Regulations (2010).
- The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017).
- Health and Safety at Work Act.
- National Planning Policy Framework (NPPF) – latest version.

Contaminated Land Risk Assessment Approach

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:



LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under LCRM, three tiers of risk assessment exist – Stage/Tier Preliminary Risk Assessment, Stage 2 Generic Quantitative and Stage 3 Detailed Quantitative.

Further information can be found at the below site:
https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report if applied.

The likelihood of a given receptor being impacted is related to a number of factors, e.g. the geology which could inhibit contaminant migration. For example, a site with a significant thickness of clay between it and a receptor may reduce migration of contamination via the subsurface, which will reduce the likelihood of a given receptor being impacted. The geology or drainage for example could offer a preferential pathway e.g. mines shafts/faults increasing the likelihood and potential magnitude of an impact. The depth of contamination will also affect the exposure pathway, for example petroleum hydrocarbons at depth are unlikely to reach a receptor via dermal contact but could via vapour pathways which will influence the likelihood of an impact being felt e.g. if there are no buildings on site.

The terms and definitions used for the assessment of the likelihood are provided below:

High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Examples - Extensive areas with concentrations above saturation limits for mobile contamination e.g. petroleum hydrocarbons within the water table.

Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term.
Examples – Localised areas of contaminants with concentrations above saturation limits for mobile contamination e.g. localised petroleum hydrocarbons within the water table; shallow contamination above relevant human health generic assessment criteria is present with little or no hardstanding,

Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term.
Examples - A thickness/distance of low permeability deposits preventing contaminant migration to a receptor is present; a site is mostly covered hard standing preventing exposure to soil contamination.

Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.
Examples – A site is underlain by a substantial thickness of low permeability clays, between the source and potential receptors which will inhibit significantly, but not completely rule out migration to sensitive receptors.

The severity is also classified using a system based on CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report, if applied. The terms and definitions are:

Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);

Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse.

Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve.

Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment.
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low
	Negligible	Negligible Risk / No Linkage			

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required.

High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term.

Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term.

Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Some linkages may be identified which constitutes a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'negligible risk' and 'no linkage' in the summary table, which give rise to an overall **negligible** risk category and no further action is required.

Contaminated Land Screening Values

In assessing the potential for contamination Brownfield Solutions Limited (BSL) follows UK guidance and current best practice.

General

The purpose of using generic Tier 1 screening levels is to have a simple means of assessing the potential contamination of a site and to inform decisions on whether further investigation is warranted or whether an option to undertake remedial action based on the data to hand is cost effective.

Human Health

Current UK guidance on risks to human health is provided by DEFRA and the Environment Agency (EA). Under the land use planning system where the aim is to demonstrate 'suitability for use' the key will usually be to confidently determine that the level of contamination of the land is low relative to some appropriate measure of risk at a particular critical connection.

Publications forming part of the guidance include the CLEA Model and toxicological reports collectively referred to as the CLEA Guidance. The CLEA Guidance has included a number of publications which have provided initial screening values or Generic Assessment Criteria (GACs) for soils contamination based on standard land uses and soil assumptions. The critical concentrations referred to above can be the relevant GAC.

CLEA guidance has gone through a number of revisions over time. Tier 1 generic S4UL values (or GACs) have been published using the CLEA 1.06 Model by CIEH/LQM. These are the third set of generic assessment criteria generated by CIEH and replace the previous two sets of GACs. The revised S4UL values are based on greater knowledge of relevant toxicology and further consideration of exposure frequencies.

C4SL values for six determinands including lead were published by DEFRA/CL:AIRE in December 2014. Additional determinands were added in 2021. They represent a low risk as opposed to minimal risk, however they are still strongly precautionary. These screening values were published by DEFRA for Part 2A use, although DEFRA have also confirmed acceptability for use under planning. However, S4ULs remain the first reference point for BSL due to the broader range of end uses scenarios and the availability of a wide array of determinands with various soil organic contents.

As part of Tier 1 assessments, the following data sources are used in the order of preference given below, unless further justification is provided to adopt less conservative criteria:

- CIEH S4UL values (derived by CIEH/LQM).
- DEFRA/CL:AIRE C4SL's https://www.claire.co.uk/projects-and-initiatives/category-4-screening-levels
- CL:AIRE GAC values.
- Guidance from other European countries.
- Guidance from the outside Europe.

Dependent on requirements, test results may be divided into representative data sets for assessment against the above referenced screening criteria, based on the conceptual model and taking into account such characteristics as variation in soil properties, historical, existing or proposed land uses. The soils in these areas are considered likely to form the ground cover in critical receptor areas (e.g. gardens, soft landscaping etc)

where pathways may exist. The critical part of the soil column is typically taken as the upper metre in terms of contact with end users of a development site for the purposes of initial assessment.

The screening criteria adopted by BSL are presented overleaf.

Further Assessment
When screening values are exceeded then further consideration is required. This could include further additional detailed investigation and assessment to further define the risk or to design appropriate remedial measures to either remove the source or break the pathway. In some cases, dependant on the Conceptual Site Model (CSM), no action may be required.

PAHs and B(a)P as a Surrogate Marker for Adoption of C4SLs
As stated above, S4ULs remain the first reference point as screening levels unless further justification is provided. In order to determine if the C4SL can be adopted, benzo(a)pyrene (B(a)P), the following guidance within SP1010 Appendix E for B(a)P and Public Heath England (PHE) may be adopted with our assessments where appropriate.

Guidance states that benzo(a)pyrene is considered to be one of the most potent PAHs, and it would be appropriate to assume the cancer risk in a mixture is proportional to the concentration of a surrogate marker PAH (benzo(a)pyrene) in the mixture. The ratio of PAHs within the mixture can be assessed to ensure that the profile is similar to that seen for the test material (coal tar mixtures) in the toxicological study by Culp et al. The International Programme on Chemical Safety (IPCS) considered that the PAH profile of the soil sample may deviate from the average profile by about an order of magnitude (up or down).

A more recent study by Bull et al (2013) which analysed PAH concentrations in soil samples from 274 sites, showed that the levels of PAH relative to B(a)P showed little variability and were similar to that recorded for the coal tar mix used in the Culp et al study. Given this, it was concluded that benzo(a)pyrene is a suitable surrogate marker to represent mixtures of PAH in soil.

In order to risk assess the PAH mixture for site specific soil samples using human health guideline values, notably the C4SLs, as detailed in SP10101 the ratio of the seven genotoxic PAHs as shown below, relative to B(a)P, should be calculated to ensure it is similar to the test material used in the Culp study (PHE 2010). To be considered sufficiently similar, the ratio relative to B(a)P should fit within the upper and lower limits (representing an order of magnitude above and below the mean ratio to B(a)P of test material used in the Culp et al study). In such cases B(a)P is considered an adequate surrogate marker and the Low Level of Toxicological concern (LLTC) for B(a)P (i.e., the C4SL) may be used in the risk assessment.

Statistical Analysis on Soils
Guidance on the use of statistics is taken from the CL:AIRE publication "Comparing Soil Contamination Data with a Critical Concentration" 2020, the basis of which in statistics is termed Central Limit Theorem (CLT), which says "*The distribution of sample means converges to a normal distribution as the sample size increases*".

If the critical concentrations have been exceeded, as part of a further assessment, statistical analysis may be undertaken on a dataset to demonstrate that the mean concentration on the site (or a particular area) is actually below the critical concentration. The true mean concentration of a contaminant is never known because all the site soil has not been tested. An estimation of the true mean can be obtained from the samples tested during the investigation. The greater the number of samples tested, the closer the mean of these values is to the true mean.

As discussed above, test results are typically divided into representative data sets for assessment and may be referred to as 'averaging areas' to which statistics can be applied, although several statements need to be satisfied before applying the guidance:

- Averaging areas have been defined based on the CSM.
- Sample locations – random/grid sampling adopted as opposed to targeted investigation.
- Samples are evenly spread and not clustered.

- Analysis do not suggest a hotspot/outlier or cluster established by histogram or other means.
- Samples are of same/similar depth and taken from one population (e.g. just topsoil).
- Analyses do not show a spatial trend or other spatial pattern across that zone.
- The number of samples has been shown to be sufficient for statistical analysis.

Once the above have been satisfied, when undertaking statistical analysis, the question "*are mean soil concentrations within the averaging area equal to, or greater than, the GAC*?" is being asked. Typically, outliers or "hotspots" are treated as separate zones or averaging areas. The sampling strategy and assessment should also take into account uncertainty (for example, spatial heterogeneity) in contaminant concentrations. There is the assumption that sampling was random or stratified and systematic (e.g. on a grid) and not targeted at specific sources; data from such targeted areas should be omitted from the statistical analysis. Data should be from one population (i.e. the same materials).

The statistical test that is carried out is used to demonstrate that there is a certain probability that the true mean falls below the critical concentration (typically the GAC in a screening exercise). The main tool used to draw conclusions based on the 2020 guidance is a comparison of a 2-way confidence interval with the critical concentration. A confidence interval consists of two sets of numbers; an interval i.e. a range of values plus a pre-determined level of confidence e.g. 80%. A common interpretation of a confidence interval of say 80% is that "*there is an 80% chance that the true mean concentration level of the contaminant in a sampling zone lies between X concentration and Y concentration*".

The current guidance for planning says that the site has to be "safe" which suggests we should use a large confidence interval such as 95% or higher to make a decision. This means that there is a 95% chance of the true mean concentration lying in this interval, there is also a 5% chance it lies outside this interval. One could then conclude that the requirements of planning have been met if the 95% confidence interval lies below the critical concentration.

The guidance recommends that at least two confidence levels are used such as 90% and 99% or 80% and 95%. By using two differing confidence intervals, we can use the smaller confidence interval (e.g. 80% confidence interval) to say "*we think the mean is most likely to be inside this range*" and the larger confidence interval (e.g. 95% confidence interval) to say "*we think the mean is most unlikely to be outside this range*".

If the confidence interval extends to above the critical concentration, then further action may be required.

Controlled Waters

The European Water Framework Directive (WFD) became UK law in December 2003. It was created to ensure that European countries manage their rivers, groundwater and lakes so that they stay healthy for people and for wildlife.

This is achieved by the use of chemical standards (Water Quality Targets – WQTs) for surface waters and groundwater. These values describe concentrations of chemicals that are not expected to cause harm to environmental organisms or human health, provided they are not exceeded. The same chemical may have several standards for different environmental regimes, and for different protection objectives.

Statutory Standards are set in legislation and if exceeded, this constitutes non-compliance with statutory obligations. European Directives are implemented in England and Wales by corresponding statutory instruments (i.e. regulations- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 and The Private Water Supplies (England) Regulations 2016. SI 2016 / 618). In Scotland, the Public Water Supplies (Scotland) Regulations 2014 apply. The statutory instruments can be the exact same standards as they appear in the Directive or be more stringent.

A number of non-statutory standards also exist, these are set by various organisations (including the EA) for chemicals that are considered to be of concern, but are not covered by any specific legislation.

The chemical standards used in the UK to control impaction of contamination on controlled waters are Environmental Quality Standards (EQS). These cover a large number of compounds. EQS are available for inland surface waters (freshwater) and other surface waters (transitional and marine).

Several EQS are based on bioavailable metal proportions (i.e. copper, lead, manganese, nickel and zinc). A software tool (M-BAT) is available from the Water Framework Directive - UK TAG website for calculating the bioavailable fraction. Where this tool has been used, the bioavailability has been taken into account by calculating site-specific $PNEC_{dissolved}$ (Predicted No Effect Concentration) values. These enable the dissolved concentration data to be compared with the PNEC as if it were an EQS.

UK Drinking Water Standards (DWS) apply to waters abstracted for human consumption. Where no UK or EU drinking water standard exists, reference is made to the World Health Organisation criteria (2011).

The DWS apply to groundwater or to surface water used for abstraction and the EQS apply to surface water where the aquatic ecosystem is the receptor. Where the most appropriate water quality target cannot be determined with certainty, the lowest one is adopted in line with the precautionary principle.

In some instances, the laboratory detection limits (LODs) may be greater than the water quality target it is being screened against, but it should be noted that these comparisons are an initial screening assessment. It may be the case that lower LODs could be obtained using a more specialised technique, but it would be disproportionately expensive to adopt the more costly specialist technique for initial screening exercises.

The preference of BSL is to have testing carried out on actual samples of ground/surface water rather than theoretical values obtained from leachate testing, which is considered to often be highly conservative. Data from water samples obtained or from leachate analysis is then compared against the screening criteria adopted by BSL, which are presented overleaf.

When screening values are exceeded then further consideration is required. This could include further additional detailed investigation and detailed quantitative risk assessment (DQRA) to further define the risk or to design appropriate remedial measures to either remove the source or break the pathway.

Ground Gas Risk Assessment

BS8485:2015+A1:2019, BS 8576:2013, CL:AIRE RB17, and NHBC 'Hazardous Ground Gas - An essential guide for housebuilders' 2023, are the current guidance which gives up-to-date advice on all aspects of permanent ground gas risk. BS8576 alongside CIRIA C682 also provides guidance on assessment of hydrocarbon vapour intrusion.

The CL:AIRE publication 'Good Practice for Coal Mine Gas Emissions" 2021 provides guidance on the assessment of risks from mine gas sources.

The above all outline good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to ground gas contamination. The aim of the guidance is for a consistent approach to decision making, particularly relating to the scope of protective design measures on a site-specific basis.

Legislative Framework
BS8485:2015+A1:2019, BS 8576:2013 and CIRIA C665 provides technical guidance, however they also recognise the context into which the guidance has to be employed. Government policy is based upon a "suitable for use approach", which is relevant to both the current and proposed future use of land. When considering the current use of land, Part IIA of the Environment Protection Act 1990 provides the regulatory regime. The presence of hazardous ground gases could provide the "source" in a "pollutant linkage" which could lead the regulator to determine that considerable harm or there is a significant possibility of such harm being caused. Under such circumstances, the regulator would determine the land to be "contaminated land" under the provisions of the Act, setting out the process of remediation as described in the DETR Circular 02/2000 *Statutory guidance on contaminated land.*

Generation Potential of Sources

BS 8576:2013 Figure 6 provides a basis for assessing the generation potential from sources identified as part of the Phase I Assessment. These are summarised below:

Generation Potential	Typical Sources
Very Low	• Natural carbonate soil and strata, e.g. chalk and limestone. • Natural soil strata with a low degradable organic content, e.g. alluvium, peat. • In-filled pond less than 15 m diameter, in-filled before 1930s to 1940s. • Made ground with low degradable organic content (e.g. up to 5% organic material such as pieces of wood, pieces of paper, rags, etc. with a high proportion of ash and no food or other easily degradable waste). • Mine workings shallow or shaft (where there is clear evidence that they are flooded). • Inert landfill sites (and pre -1945 landfills).
Low	• Natural soil strata with a high degradable organic content (DOC). • Made ground with total organic carbon (TOC) up to 6% (e.g. dock silt, no food or other easily degradable waste). • Foundry sand (includes phenolic binders, rags and wood that decay, albeit at low rates). • Landfill 1945 to mid 1960s (see also Moderate below).
Moderate	• Sewage sludge. • Mine workings – unflooded, more than 50 years since last worked (gas is liberated from coal when mine workings are excavated; this continues for up to about 50 years). • Landfill 1945 to mid 1960s (this could also be “low” or, if disturbed, “high”).
High	• Landfill mid 1960s to early 1990s. • Mine workings – unflooded – less than 50 years since last worked.
Very High	• Municipal landfill sites. • Landfill early 1990s onward.

Frequency and Duration of Monitoring

BS8576 notes to determine where and how to monitor ground gases requires consideration of credible pathways of possible exposure of the receptors, taking into account what is known about the geology and hydrogeology, building construction and services layout, foreseeable events such as flooding, changes in groundwater level, climate change, extreme weather conditions, the closure of mines, and possible changes to the gas regime caused by future development.

The monitoring period for a specific site should cover the “worst case” scenario. A “worst case” scenario will typically occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather.

The benefits of additional information and whether it is likely to change the scope of gas protection should be considered, as are the consequences of failing to characterise adequately pollutant linkages. Investigations concerned with ground gas are required to provide monitoring data sufficient to allow prediction of worst case conditions enabling the confident assessment of risk and subsequent design of appropriate gas protection schemes. Monitoring programmes should not be an academic exercise in data collection. CL:AIRE publication TB17 “Ground Gas Monitoring and ‘Worst-Case’ Conditions” provides further guidance.

Below are matrices that will aid in determining an appropriate number of gas monitoring visits and the length of monitoring period.

Typical/idealised periods of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (Apartments)	2 months	3 months	6 months	12 months	24 months
	High (Low rise Residential)	3 months	6 months	6 months	12 months	24 months

Typical/idealised frequency of monitoring/Number of Visits Required

		Gas Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4	6	6	12	12
	Moderate (Apartments)	6	6	9	12	24
	High (Low rise Residential)	6	9	12	24	24

Notes

1 Generation potential of sources based on descriptions within BS 8576:2013.

2 At least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) known as worst case conditions. Historical data can be used as part of the data set (Table 5.5b).

It is recommended that newly installed monitoring wells are left for 24 hours to allow the soil gas to reach equilibrium. It should be recognised, however, that some soil gas regimes could take considerably longer (up to seven days). Interpretation of any initial readings should take this equilibrium process into account.

Gas Risk Assessment

Within BS8485:2015+A1:2019 a semi-quantitative method is set out for the assessment of risk.

This method (Modified Wilson and Card) uses the concept of Gas Screening Values (GSVs) and typical threshold concentrations of carbon dioxide and methane to identify levels of risk. Sites are then classified into a 'Characteristic Situation' or 'CS' from CS1 where no mitigation is required and CS2 increasing up to CS6 where protection measures are required.

The NHBC guide 'Hazardous Ground Gas - An essential guide for housebuilders' 2023 provides further assessment tools for ground gas monitoring data, including the use of ternary plots to determine ground gas sources.

A separate approach to assessment without monitoring data is discussed under the RB17 header further below.

CIRIA C682 and BS 8576:2013 provide guidance on assessment of VOC intrusion risk.

Ground Gas Mitigation

Where a risk is determined to be present by assessment, BS8485:2015+A1:2019 provides guidance for the design of protection systems based on a points scoring system depending on the characteristic situation, structure type, structural barrier types, ventilation and a gas resistant membrane. Source removal can also be considered.

The design requires the structures to be categorised into one of four building types: Type A, Type B, Type C or Type D, related to the construction and end use of the building, together with the control of future structural changes and maintenance.

CIRIA C748 provides advice on the use of membranes as VOC vapour barriers.

CIRIA C735 sets out the approach for verification of installed mitigation measures. Note that if a membrane is installed it must be verified in accordance with CIRIA C735 or it will score zero points and assumed to not afford any protection.

RB17 Approach
CL:AIRE RB17 (Card et al 2012) is a pragmatic approach to ground gas risk assessment and was developed because gas concentration, pressure and flow rate measured in a well headspace may not be representative of the conditions in the surrounding formation.

In these low-risk situations, the approach is to use the conceptual site model and the estimation of the likely gas generation from a source to identify where or if gas monitoring is required to better define the risks.

Under this approach, for sites with natural soils only with no credible methane source, then no action is required (no monitoring or gas protection measures) as this represents Characteristic Situation 1 (CS1).

Radon
Advice on radon protection in England is provided by the UK Health Security Agency, https://www.ukradon.org/information/ukmaps and by the BRE (BR 211 (Scivyer 2023).

Areas of the country can be categorised according to the percentage of existing homes where radon is present above the Action Level:

- 0-1% lower probability.
- 1-3% and 3-10% intermediate probability.
- >10% higher probability.

Basic radon protection measures are required in new buildings and extensions in areas of England and Wales where 3-10% of properties exceed the Action Level and full radon protection measures where >10% exceed the Action Level.

Unexploded Ordnance (UXO) Guidance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA report C681.

BSL carry out non-specialist UXO screening exercises by considering any evidence of UK defence activities on or near the site evident from gathered desk study information and the unexploded aerial delivered bomb (UXB) online risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available online Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experienced and considered competent in the assessment of UXO.

Geotechnical Guidance

A preliminary risk assessment of geotechnical hazards is carried out at the desk study stage and confirmed (or amended) at the ground investigation stage.

The CD 622 'Managing Geotechnical Risk' guidance document defines the technical approval and certification procedures to be used to ensure that the risk associated with the geotechnical activities are appropriately managed.

The desk-based stage may also include the requirements for a Coal Mining Risk Assessment (CMRA) which specifically assesses the risks from mining induced instability and related issues in high risk development areas: https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments.

In order to establish the requirements of a project, the Geotechnical Category which is based on a consideration of project complexity, proposed geotechnical activities, presence of geo-hazards and severity of geotechnical risks, shall also be considered. These range from Category 1 (small/simple structures) to Category 3 (very large, unusual or complex activities/structures, such as tunnels). It is envisaged most projects typically fall into Category 2, including conventional types of geotechnical structures, earthworks and activities.

In the case of the geotechnical hazard identification at the intrusive investigation stage, this is referred to as the **ground model**.

The geotechnical sections of the report contain the factual information on the geology and relevant site data, including both in situ and laboratory testing, with a geotechnical evaluation of the information stating the assumptions made in the interpretation of the data.

Derived values of geotechnical parameters are obtained from test results by theory (book values), correlation or empiricism in general accordance with BS EN 1997-2:2007 (EC7).

Where derived geotechnical parameters are to be used in designs in accordance with EC7, the selection of characteristic values for geotechnical parameters using the derived values is carried out by well-established experience.

The characteristic value is a cautious estimate of the value affecting the occurrence of the limit state. For any particular material type there may be more than one characteristic value for each parameter because there may be more than one limit state.

The second stage is the selection of design values. The design values are either derived from the characteristic value by applying the relevant partial factors or assessed directly. Similarly, there can be several design values for the same material type.

In the event that geotechnical designs are included in this report, selection of the characteristic and design values is included. Otherwise, it is the duty of the geotechnical designer to determine these within a separate design report (a GDR).

Where it has not been possible to reasonably use an EC7 compliant technique, a practical alternative has been adopted to obtain indicative soil parameters and any interpretation is based upon engineering experience, local precedent where applicable and relevant published information.

In addition to the above:

- Assessments for highways designs are based on CD 622 Managing Geotechnical Risk.
- The assessment of sustainable drainage is based on BRE365 and CIRIA C753 'The SuDS Manual'.
- Earthworks Assessments are based on SHW Series 600 and BS6031.
- Risks from mining (both at the desk based and intrusive stages) are assessed adopting guidance from CIRIA C758.

Re-Use of Waste Soils Guidance

Definition of Waste
The Environment Agency considers waste to be "*...any material that is discarded, or intended to be discarded...*" this includes any soil from drainage trenches, foundation arisings, site strips etc. It is no longer required in its original location, therefore it is considered to be waste. Without an appropriate materials management plan, permit or exemption in place, by law this material is defined as "illegally deposited waste".

Landfill tax rules allow HM Revenue & Customs (HMRC) to recover landfill tax on illegally deposited waste on construction sites. This could lead to excessive costs without the correct documentation in place. In addition, a

person who makes, knowingly causes or knowingly facilitates a disposal to be made at an unauthorised site is also liable to pay Landfill Tax.

CL:AIRE: Code of Practice
Where materials are excavated for construction purposes, wherever possible these should be retained on site for engineering purposes if they are suitable for use. This can be implemented under the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE DoWCoP), also commonly referred to as a "Materials Management Plan".

https://www.claire.co.uk/projects-and-initiatives/dow-cop

Developers and contractors are advised to complete all works under the DoWCoP where applicable.

To implement the DoWCoP (for Route A), there is a requirement to notify the Environment Agency and Local Authority of the intention to use the code of practice in principle, after which there is a 21-day notice period for their response.

In order to re-use soils under the DoWCoP, there are four key criteria that need to be met:

- The aims and objectives of the project meet the requirements of the Waste Framework Directive (does not harm human health or the environment).
- The soils can be demonstrated to be suitable for use (backed up by chemical/geotechnical testing and assessment).
- There is certainty of use (planning consents are in place alongside materials tracking, which should be in place as part of good site practice in any case).
- Quantity (the quantity of materials used should be known).

Potential scenarios where soils may be able to be re-used:

- Material capable of being used in another place on the same site without treatment.
- Material capable of being used in another place on the same site following ex-situ treatment on site.
- Material capable of being used in another development site without treatment (Direct Transfer).
- Material capable of being used in another development site following ex-situ treatment on another site e.g. Hub site.

In order to satisfy these requirements, the following are required:

i) Consultation/approval with Local Authority & Environment Agency to confirm they have no objections to the proposed re-use of waste soils, or the risk assessments for the site.
ii) Risk Assessments to demonstrate that the site does not present an Environmental Hazard.
iii) Remediation Strategy for contaminated sites (or Design Statement for non-contaminated sites).
iv) Materials Management Plan (MMP) which details material generated stockpiles and the end use.
v) Volume calculations.
vi) Planning permission for the development.
vii) Contractual details to be clear, regarding who steps in is a contractor goes into administration/liquidation.

The use of the CoP is effectively industry regulated, there is a requirement to appoint an independent Qualified Person (QP) who checks all the requirements have been met and registers the documentation with the Environment Agency. This person must not have had any involvement with the preparing of the risk assessments or remedial strategy on the site.

Soils which require treatment on site (e.g. bioremediation, stabilisation etc) may require an Environmental Permit for treatment, together with justification and validation to prove, once treated, this material is suitable for use.

Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties are not generally regarded as waste treatment operations and do not require a permit.

Site management procedures need to be in place to ensure that material is tracked through from excavation stockpiling, treatment and remediation processes. Should the process of material tracking be considered non-robust, or not adhered to, this may fail the test whether excavated materials may be considered non-waste.

Any declared MMP should be amended as new import sources are added.

Regardless of implementing re-use under the code of practice or not, all sites should have some form of materials tracking in place in compliance with current legislation. Any re-use scheme should also be designed to minimise disposal costs. Note that for re-use of landfilled materials or mining wastes, the DoWCoP may not apply and a Waste Recovery Permit (or others) may be required. Liaison with the Environment Agency would be needed on a case by case basis to determine the best option.

Once the project is complete, a verification report detailing soils re-use/import will need to be produced and submitted to CL:AIRE, which may be subject to a random audit process. Sites found to be non-complaint with the CoP can be referred to the EA for further investigation.

Soils Re-use under Exemptions and Permits
Other potential options to allow the re-use and/or import of soils and aggregates on site are provided in the table below. Applies to England/Wales only – Scotland differs.

Re-use Mechanism	Description
U1 Exemption	Can be applied to re-use/import of soils and stones, but only up to 1000 tonnes or for brick and concrete up to 5000 tonnes. This is usually an efficient way to re-use small volumes of waste materials. However, only one U1 can be filled in per site in any 3-year period. Quick and free via online registration.
WRAP Quality Protocols	Describes how processed demolition arisings can be removed from regulatory waste regime. Requires a demonstration of appropriateness by: • Factory Production Control Manual. • Facility Permit (or Exemption). • Grading Analysis.
Waste Framework Directive (WFD) exclusion	In regard to "clean" naturally occurring soils only that are to be re-used on their site of origin, these are covered by a Waste Framework Directive (WFD) exclusion which is an EA regulatory position statement. So long as the project can prove the four criteria listed above for the DoWCoP, then permits or the DoWCoP are not required. However, many projects still use the CoP to ensure compliance.
T5 Screening and blending of waste	The T5 exemption allows you to temporarily treat waste on a small scale to produce aggregate or soil at a particular location, such as a construction or demolition site. The limit is 5,000 tonnes. This applies to: • Screening soil on a demolition site to remove wood and rubble. • Blending soil and compost that has been produced under an exemption on a construction site to produce better soil for landscaping on that site (e.g. peaty deposits). • Crushing waste (except bricks, tiles and concrete) before screening or blending • Grading waste concrete after it has been crushed to produce a certain type of aggregate.
T7 Exemption	The T7 allows treatment of waste bricks, tiles and concrete by crushing, grinding or reducing in size. This needs to be registered with the Local Authority.
Other Permitting Routes	Other options include use under an Environmental Permit (Standard or Bespoke Rules), however these may be a time consuming and costly route, where use of the other above options (if applicable) are likely to be more feasible in construction.

There are also potential non-enforcement positions for re-use e.g. a site has a large volume waste illegally deposited on it (not by landowner). The new owner is keen to re-use waste where possible to reprofile the site (planning condition granted). The DoWCoP could not be used as materials already excavated and deposited as a waste (illegally). The EA may agree that although the DoWCoP not applicable, they would take a non-enforcement position if the works were completed in accordance with the DoWCoP – this would need to be agreed in advance.

Waste Classification and Disposal Guidance for Soils

Introduction
As described in the 'Waste Duty of Care Code of Practice (2016)' any substance or object that the holder discards, intends to discard or is required to discard is a waste. Waste producers have a duty of care to classify the waste they are producing:

- Before it is collected, disposed of or recovered.
- To identify the controls that apply to the movement of the waste.
- To complete waste documents and records.
- To identify suitably authorised waste management options.
- To prevent harm to people and the environment.

The most sustainable and economic method of dealing with waste soil is usually the retention and re-use on site. Where this is not possible there are three main options for the disposal of soils:

1. Disposal to a permitted waste recycling facility.
2. Re-use on another site (subject to the suitability).
3. Disposal to a landfill site.

The disposal to a permitted facility will be subject to the **specific conditions of the permits for each individual facility** and will vary dependent on location and environmental sensitivity of the receiving site. Re-use on another site will also be subject to the acceptability criteria of that site.

The guidance below relates to disposal to **landfill sites only**.

Background for Landfill Disposal
The Landfill Directive places controls on waste disposal. These controls include requirements to follow the waste acceptance procedures and criteria that have been agreed by the Council of the European Union and are laid out in Council Decision 2003/33/EC.

Before a waste can be accepted at a landfill site, the landfill **operator** must be satisfied that the waste meets permit conditions, the waste acceptance procedures (WAP) and waste acceptance criteria (WAC).

If disposal to landfill is the best management option for the waste soils, these procedures **must** be followed or the operator may refuse to accept the waste.

Key Points:

- Not all waste can be landfilled.
- Landfills are classified according to whether they can accept hazardous, non-hazardous or inert wastes.
- Wastes can only be accepted at a landfill if they meet the waste acceptance criteria (WAC) for that class of landfill.
- Most wastes must be treated before you can send them to landfill.
- There are formal processes for identifying and checking wastes that must be followed before wastes can be accepted at a landfill site.

Classification

Wastes are listed in the European Waste Catalogue and grouped according to generic industry, process or waste types. Wastes within the EWC are either hazardous or non-hazardous. Some of these wastes are hazardous without further assessment (absolute entries) or are 'mirror' entries that require further assessment of their hazardous properties in order to determine whether they are hazardous waste.

Waste soil has mirror entries on the EWC and as such the first phase of the waste classification process is that of determining if the waste is hazardous or not i.e. the hazard assessment. The most common EWC waste codes related to soil are:

17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing dangerous substances
17 05 04	soil and stones other than those mentioned in 17 05 03

Soils may contain certain contaminants (e.g. asbestos, oil,) which have prescribed concentration thresholds, that if breached will render the material hazardous waste. These are based on specific "hazardous properties" which include hazards such as carcinogenicity, flammability and toxicity.

In the first instance the concentrations of plausible contaminants within the soil should be identified and wastes should be **classified based on their total concentrations** and classified as either hazardous or non-hazardous waste. WAC analysis must not be used for waste classification.

Waste Definitions

Inert	• Will not undergo any significant physical, chemical or biological transformations. • Will not dissolve. • Will not burn. • Will not physically or chemically react. • Will not biodegrade. • Will not adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health. • Has insignificant total leachability and pollutant content. • Produces a leachate with an ecotoxicity that is insignificant (if it produces leachate).
Non-Hazardous	Is not inert (see above). Is not hazardous (see below).
Hazardous	Soil has hazardous properties as defined in WM3 (Guidance on the classification and assessment of waste (1st edition 2015)- Technical Guidance).
Stable Non-reactive hazardous waste#	Hazardous waste, the leaching behaviour of which will not change adversely in the long-term, under landfill design conditions or foreseeable accidents either: in the waste alone (for example, by biodegradation), under the impact of long-term ambient conditions (for example, water, air, temperature or mechanical constraints) or by the impact of other wastes (including waste products such as leachate and gas).

This option allows hazardous waste that is stable and thus has a low leaching potential to be deposited in cells with a standard of containment consistent with non-hazardous wastes.

WAC Testing

The purpose of WAC analysis is to confirm that the waste complies with the relevant WAC for the receiving landfill. If the waste has any disposal route other than a landfill site (e.g. recycling facility, incineration etc) then WAC is not relevant. Furthermore, the WAC limits **cannot** be used to make an assessment of whether a waste is hazardous. WAC testing does however define if a non-hazardous waste is suitable for an inert landfill.

Classification based on Total Concentrations[1]	Non-Hazardous Waste		Hazardous Waste	
WAC testing	Below inert WAC limit values:	Above inert WAC limit values:	Below hazardous WAC limit values	> WAC limit values

Landfill requirements	INERT landfill	NON-HAZARDOUS landfill[2]	HAZARDOUS landfill	PRE-TREATMENT[3]

1 Total concentrations are defined as tests results on solids as opposed to leachate (i.e. a liquid).
2 Individual sites may have certain limit values pre-determined in their licence.
3 After pre-treatment the material characteristics may have changed to an extent that allow the soil to be re-classified.
4 Possibility that wastes could be classified as stable Nonreactive HAZARDOUS waste in non-hazardous Landfill (e.g. soils containing low concentrations of asbestos, gypsum or sulphate bearing soils).

Waste classified as non-hazardous can be accepted into a non-hazardous landfill without having to pass any numerical WAC.

Soils above hazardous WAC limit values require pre-treatment prior to disposal. The effective pre-treatment, typically involving separation, sorting and screening, can offer cost savings through reducing the hazardous nature and volumes of soil. Costs for disposal of non-hazardous/hazardous soils are significant compared to the disposal of inert material.

Greenfield Sites and Inert Waste
The possibility of automatic inert classification naturally occurring "clean" soils should be explored in accordance with the requirements of paragraph 10 (wastes acceptable without testing at landfills for inert waste) of the Landfill (England and Wales) (Amendment) Regulations (2005). This is the case if:

- They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source); and
- There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other classes of landfill (e.g. the waste producer can characterise the waste based on visual assessment and written description with supporting evidence such as a desk study, subject to agreement by the landfill operator).

Hydrocarbons in Soils
WM3 uses the term Oil or Waste Oil to cover hydrocarbons products such as fuel oil, petrol or diesel. These are defined by WM3 as hazardous under an absolute entry in the List of Wastes. However, hydrocarbons in soils are a mixture rather than a pure product and are therefore not absolute entries.

Known Oils
The simplest scenario is where the identity of the contaminating oil is known or can be identified. If the oil is known the manufacturer's or supplier's REACH compliant safety data sheet for the specific oil can be obtained and the hazard statement codes on that Safety Data Sheet can be used for the hazardous waste assessment.

Where the identity of the oil can only be identified down to a petroleum group level (i.e. the contaminating oil is known to be diesel, but the specific type/brand is unknown), then the classification of that petroleum group should be used in the assessment. The marker compounds associated with that petroleum group may be used to confirm carcinogenicity.

Oils may contain a range of hydrocarbons, so the presence of for instance Diesel Range Organics (DRO) does not enable the assessor to conclude that diesel is present. These hydrocarbons may have arisen from other oils, the laboratory needs to provide an interpretation of the chromatograph to determine if it is consistent with diesel or weathered diesel as a whole.

The concentration of known oils should be determined using a method that as a minimum spans the range in which the carbon numbers for that known oil fall.

Unknown Oils
Where hydrocarbons are contaminating soils, it is likely that the oil will be unknown or cannot be determined.

WM3 states that:

> For contaminated land specific consideration must be given to the following before proceeding:
>
> - The presence of other organic contaminants, for example solvents or coal tar that could be detected as hydrocarbons. Coal Tar is not an oil and is considered separately in WM3 example 2. Where the site history or investigation indicates the presence of hydrocarbons from oil and other sources (e.g. coal tar), and the origin of the hydrocarbons cannot reliably be assigned to either, then a worst case approach of considering the hydrocarbons both as waste oil (in accordance with this example) and from other sources, for example coal tar should be taken.
> - The presence of diesel, or weathered diesel, should be specifically considered by the laboratory and where this is confirmed by the hydrocarbon profile the oil should be assessed as a known or identified oil (diesel).

The use of marker compounds is optional; however, it is recommended that where possible the marker compounds should be used. WM3 states:

> If the identity of the oil is unknown, and the petroleum group cannot be established, then the oil contaminating the waste can be classified as non-carcinogenic/mutagenic due to the presence of oil if all three of the following criteria are met:
>
> - The waste contains benzo[a]pyrene (BaP) at a concentration of less than 0.01% (1/10,000th) of the TPH concentration (This is the carcinogenic limit specified in table 3.1 of the CLP for BaP)
> - This has been determined by an appropriate and representative sampling approach in accordance with the principles set out in Appendix D of WM3, and
> - The analysis clearly demonstrates, for example by carbon bands or chromatograph, and the laboratory has reasonably concluded that the hydrocarbons present have not arisen from petrol or diesel.

For example:

TPH Concentration (mg/kg)	Petrol or Diesel	BaP (mg/kg)	Classification
10,000	No	0.9	Non- Hazardous
1,000	No	Not available	Hazardous
1,000	Yes	Not relevant	Hazardous

References

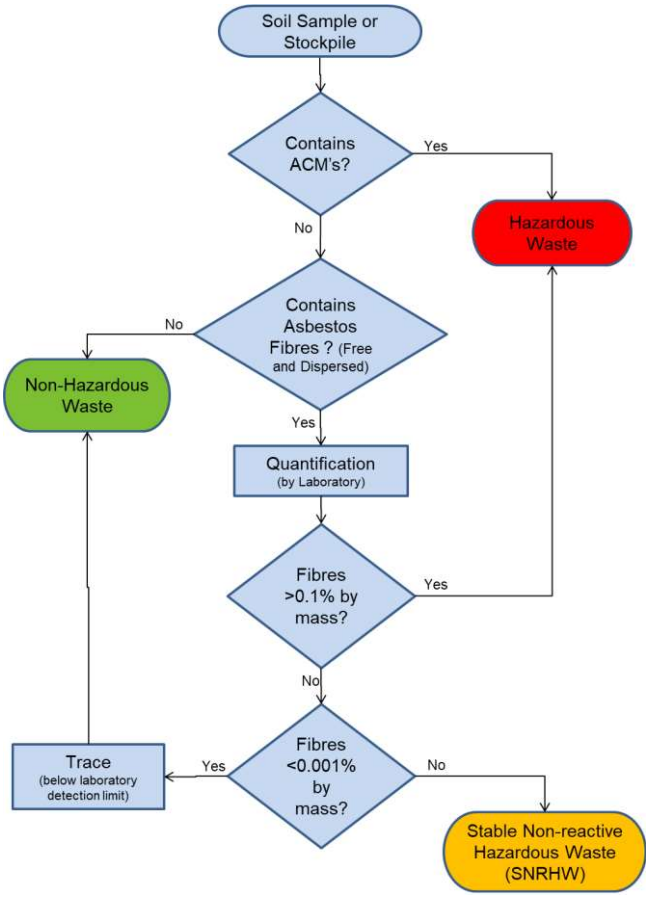
1. Environmental Permitting (England and Wales) Regulations 2010 (as amended) (EP Regulations), the Landfill Directive (1999/31/EC) and the subsequent Council Decisions.
2. Environment Agency Environmental Permitting Regulations: "Inert Waste Guidance- Standards and Measures for the Deposit of Inert Waste on Land" 2009.
3. Environment Agency "Waste acceptance at landfills - Guidance on waste acceptance procedures and criteria" Nov 2010.
4. Environment Agency "Guidance on the classification and assessment of waste (Technical Guidance WM3)".
5. Classification, Labelling and Packaging of Substances Regulation (EC 1272/2008) (CLP).
6. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.
7. 2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament.
8. Environmental Permitting Guidance The Landfill Directive For the Environmental Permitting (England and Wales) Regulations 2010 Updated March 2010 Version 3.1.
9. Classification, Labelling and Packaging of Substances Regulation (EC 1272/2008) (CLP).

Waste Containing Asbestos

The assessment of asbestos containing waste is dependent on whether the asbestos is present as:

- Fibres that are free and dispersed, or
- Identifiable pieces of asbestos containing materials (ACM's).

Identifiable pieces of asbestos are any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye. The result is that commonly soils with visible ACM's are sorted and the ACM's removed by hand picking and separate disposal.



Should soils contain asbestos, the concentration and type of asbestos identified, in addition to the chemical composition (i.e. hazardous or non-hazardous detailed above), will determine which waste code is applicable to the soils and which landfill will accept it as summarised below:

Waste	Conc. by Weight (%)	EWC 2002 Catalogue Entry Code	Waste Disposal Route
Non-hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 04 (soil and stones other than those mentioned in 17 05 03*)	Non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.
Non-hazardous soils containing asbestos fibres	>0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos.

Waste	Conc. by Weight (%)	EWC 2002 Catalogue Entry Code	Waste Disposal Route
Non-hazardous Soils containing ACM (Mechanically separable)	>0.1%	17 06 05 (construction material containing asbestos) 17 05 04 (soil and stones other than those mentioned in 17 05 03*)	ACMs disposed of at a hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos. Soils should be disposed of at a non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous soils containing ACM	>0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.

Asbestos concentrations below 0.001% by mass are below standard laboratory detection limits and are not currently regarded as containing asbestos for the purposes of disposal and may be disposed of to an inert landfill site[1]. These levels are often termed "trace" by laboratories.

Asbestos concentrations between 0.001% and 0.1% are stable non-reactive hazardous waste (SNRHW)[1]. Waste transfer stations where soil recycling takes place may be able to take SNRHW, but are unlikely to take soils containing asbestos above trace concentrations.

The following codes should be assigned to the asbestos waste as appropriate:

17 06	Insulation materials and asbestos-containing construction materials
17 06 01	Insulation materials containing asbestos
17 06 03	Other insulation materials consisting of or containing hazardous substances
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05	Construction material containing asbestos

WM3 indicates that 17 06 05 would normally be used in preference to 17 06 01 for the asbestos in asbestos contaminated soil and stones.

Construction materials containing asbestos and "*other suitable materials*" may be landfilled at landfills for non-hazardous waste in accordance with the Landfill Directive without testing.

This means that wastes that are only hazardous because of their asbestos content can be disposed of at landfills for non-hazardous waste in separate landfill cells that only accept asbestos wastes and other suitable materials. The Landfill Directive requires that stable non-reactive hazardous waste shall not be deposited with biodegradable waste (for example organic material, household waste, paper etc..) and must meet the waste acceptance criteria set out in accordance with Annex II.

Construction

Health and Safety Executive (HSE) guidance on asbestos is not directly related to soil and much of the guidance focuses on the removal of asbestos from buildings. The overarching legislation is the Control of Asbestos Regulation (CAR 2012). However, where work involves (or is likely to involve) contact with asbestos then CAR 2012 requires a risk assessment including whether the work is licensed or notifiable non-licensed work and may require an Asbestos Management Plan. Work becomes notifiable if it is considered that the control limit could be exceeded.

Brownfield sites frequently have soils that contain asbestos and the presence of asbestos needs to be considered within the context of construction, particularly in relation to groundworks. The exposure of soils and the use of excavators and plant to move soil around increases the possibility of fibres becoming airborne. However, it is good site practice to not generate dusts and to employ dust suppression on all sites regardless of the presence of asbestos.

The legal control limit for asbestos is 0.1f/ml over a continuous four-hour period. The control limit is not a '*safe*' level and exposure from work activities involving asbestos must be reduced to as far below the control limit as possible.

Clearly the higher the concentrations in the soil the greater potential there is for fibres to be released, however IOM publication TM/88/14 "the release of dispersed asbestos fibres from soil" 1988 concludes that:

- Mixtures of asbestos in dry soils with asbestos content as low as 0.001% can produce airborne respirable asbestos concentrations greater than 0.1f/ml in dust clouds where the respirable dust concentrations are less than 5mg/m3.
- An action limit is recommended of no higher than 0.001% asbestos in soils above which steps should be taken to minimise exposure to airborne fibres (e.g. by wetting).
- The addition of relatively small quantities (10%) of water can reduce the airborne fibre concentrations by an order of magnitude.

Where asbestos has been identified at concentrations above 0.001% as free and dispersed fibres in the soil precautions need to be adopted. Concentrations below this are considered to be normal background, although good site practice dictates that the generation of dusts should be avoided and therefore any fugitive fibre release from minor concentrations should be kept to a practical minimum.

End Use
The use of materials containing asbestos and material containing asbestos is prohibited under EU legislation.

Asbestos containing materials can remain in situ under a suitable cover system which may be hard surfacing or soft landscaping (with or without hard dig layers and markers).

There is a risk that future maintenance may compromise such systems and details of the presence of asbestos should be kept in the Health and Safety File.

Publications from the JIWG provide guides for decision making in relation to construction.

The re-use of waste soils should be undertaken in accordance with the CL:AIRE Code of Practice and is subject to suitable risk assessments demonstrating low risk. There is nothing that specifically excludes the re-use of soils containing asbestos as fill to raise levels. However, the movement of materials increases the risk of fibres becoming airborne and suitable precautions will be required. Re-use of soils containing asbestos should be as per CARSOILS.

The re-use of soils containing asbestos at concentrations above hazardous waste levels may be met with regulatory opposition. Assuming a suitable strategy could be agreed this would take a considerable amount of time and is only likely to be feasible where there is a long program for implementation.

Asbestos in Soil as Free Fibres

Concentration (by weight)	Waste Disposal				Construction Issues	End Use	
	Recycle	Inert	SNR	Haz		Suitable for re-use on site	Precautions
Not detected	√	√			No precautions necessary, however on a brownfield site asbestos not previously identified may be found during works and a statement within the contractor's method statement for how they will deal with this unforeseen asbestos would be good practice to ensure compliance with CAR2012.	Yes.	None.
Trace (<0.001%)		√ [2]			Precautions are unlikely to be required, however a detailed method statement may be required to ensure compliance with CAR2012. Basic asbestos management good practice will be required. Typically precautions would include: • Ensuring soils do not dry out to become dusty. • Site personnel have the risk communicated at induction stage.	Yes Soils can be re-used under CL:AIRE CoP with the correct precautions in place.	Generally clean cover or hardstanding cover required.
0.001% – 0.099%			√		Contractor needs to produce an Asbestos Management Plan in accordance with CAR2012 as part of their method statement. Typical precautions would include: • Site personnel have the risk communicated at induction stage. • Ensuring personnel have suitable training. • Task monitoring to inform PPE requirements. • Ensuring soils do not dry out to become dusty and that misting is available during groundworks. • Separate stockpiling. • Clean haulage routes.	Possibly. Soils may be able to be re-used under CL:AIRE CoP, subject to a satisfactory Risk Assessment and regulatory agreement with the correct precautions in place.	Clean cover with hard dig/demarcation layer or hardstanding cover required.
0.1+%				√	Contractor needs to produce an Asbestos Management Plan in accordance with CAR2012 as part of their method statement. Typical precautions would include: • Site personnel have the risk communicated at induction stage. • Ensuring personnel have suitable training. • Task monitoring to inform PPE requirements. • Site wide and or perimeter monitoring. • Ensuring soils do not dry out to become dusty and that misting is available during groundworks. • Separate stockpiling.	Unlikely [3] Re-use of soils containing asbestos within an earthworks scheme will involve significant engineering and the risk for generating dusts will be significantly	Clean cover and a hard dig / demarcation layer. A plan should be in place for future excavations as part of the Health and Safety File.

Concentration (by weight)	Waste Disposal				Construction Issues	End Use	
	Recycle	Inert	SNR	Haz		Suitable for re-use on site	Precautions
					• Clean haulage routes. • Decontamination unit	increased with repeated handling and compaction.	

1. The standard laboratory detection limit is normally 0.001%. Below 0.001% is trace and currently regarded as not containing asbestos for the purposes of disposal off site. However the waste producer has a duty to fully classify the waste and the presence of trace asbestos should be declared. Consequently it is unlikely that a waste treatment site will take this soil and an inert landfill may make a commercial decision to only take it under some circumstances.

2 The re-use of soils containing asbestos at concentrations above hazardous waste is likely to meet with regulatory opposition. Assuming a suitable strategy could be agreed this would take a considerable amount of time and is only likely to be warranted where there a long program for implementation.

APPENDIX B

Exploratory Hole Logs

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS101
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338590E, 349419N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	28.20m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	15/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-0.30	ES					MADE GROUND: Brownish orange sandy gravel. Sand is fine to coarse. Gravel is angular fine to coarse of brick and mudstone.
					0.30	27.90		
		0.40-0.60	ES					MADE GROUND: Brown slightly gravelly clay. Gravel is subangular fine to medium of brick and charcoal.
					0.80	27.40		
		1.20-1.65 1.20	D SPT	N=23 (3,3/4,6,6,7)				Stiff brown slightly gravelly CLAY with grey mottling. Gravel is subangular fine to coarse of grey weathered mudstone.
		1.70-1.90	ES					
		2.00-2.45 2.00	D SPT	N≥50 (5,7/11,12,12,15)				*2.00m bgl: becoming hard.*
					2.45	25.75		End of Borehole at 2.45m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. No groundwater encountered.
3. Refused early at 2.45m bgl including SPT on hard clay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS102
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338573E, 349363N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	27.40m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	15/04/26

Hole Type	
WS	
Scale	
1:25	
Logged	**Checked**
CC	AJS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-0.20	ES					MADE GROUND: Dark brown slightly gravelly clay with frequent rootlets. Gravel is subangular fine of brick.
					0.20	27.20		
		0.40-0.60	ES					Brown slightly gravelly CLAY with occasional small tree roots. Gravel is angular fine of mudstone.
					1.00	26.40		
		1.20-1.65 1.20	D SPT	N=12 (2,2/2,3,3,4)				Firm dark brown slightly gravelly CLAY with grey mottling. Gravel is mostly subrounded fine to medium of mudstone with rare fine to medium gravel of coal fragments.
		1.90-2.45 2.00	D SPT	N≥50 (4,7/10,12,12,16)				*2.00m bgl: becoming hard.*
					2.45	24.95		End of Borehole at 2.45m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. No groundwater encountered.
3. Refused early at 2.45m bgl including SPT on hard clay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS103
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338544E, 349289N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	25.60m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	15/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	25.50		MADE GROUND: Dark brown clay with frequent tree roots and leaves.
		0.30-0.60	ES					MADE GROUND: Brown gravelly clay with high cobble content. Gravel is angular fine to coarse of brick, concrete, and mudstone. Cobbles are subangular 70-80mm of concrete.
					1.10	24.50		
		1.20-1.65 1.20	D SPT	N=8 (2,2/2,2,2,2)				Soft dark brown slightly gravelly CLAY. Gravel is subangular fine to coarse of sandstone, mudstone, and charcoal fragments.
		1.30-1.50	ES					
					1.80	23.80		Brown CLAY with minor orange mottling.
		2.00-2.45 2.00	D SPT	N=17 (2,2/3,4,4,6)	2.10	23.50		Stiff brown slightly gravelly CLAY with grey mottling. Gravel is angular fine of mudstone.
		2.50-3.05 2.60	D SPT	N≥50 (5,8/11,13,13,14)				*2.60m bgl: becoming hard.*
					3.05	22.55		End of Borehole at 3.05m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. No groundwater encountered.
3. Refused early at 3.05m bgl including SPT on hard clay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS104
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338525E, 349277N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	27.20m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	15/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20-0.40	ES					MADE GROUND: Brown clay with grey mottling.
					0.50	26.70		MADE GROUND: Brown slightly gravelly clay. Gravel is angular fine to coarse of brick and burnt shale.
					1.10	26.10		MADE GROUND: Soft brown gravelly clay. Gravel is angular fine to coarse of brick, burnt shale, and coal fragments.
		1.20-1.40 1.20	ES SPT	N=8 (2,2/2,2,2,2)				
					1.50	25.70		Soft brown CLAY with minor grey mottling.
		1.70-1.90	ES					
		2.00-2.45 2.00	D SPT	N≥50 (2,3/9,13,13,15)				*2.00m bgl: becoming hard.*
					2.45	24.75		End of Borehole at 2.45m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. No groundwater encountered.
3. Refused early at 2.45m bgl including SPT on hard clay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS105
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338564E, 349258N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	27.20m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	16/04/26

Hole Type	
WS	
Scale	
1:25	
Logged	**Checked**
CC	AJS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20-0.40	ES					MADE GROUND: Brown slightly gravelly clay with frequent small tree roots and rootlets. Gravel is angular fine to medium of brick. *0.20m bgl: no tree roots or rootlets.*
					0.60	26.60		MADE GROUND: Brown slightly gravelly clay. Gravel is angular fine to coarse of brick and mudstone.
		1.00-1.20	ES					
		1.20	SPT	N=9 (2,3/2,2,2,3)	1.30	25.90		Firm brown slightly gravelly CLAY with grey mottling. Gravel is subrounded fine of sandstone. *1.70 - 2.40m bgl: orange mottling and rare small tree roots present.*
		1.80-2.00	ES					
		2.00	SPT	N=17 (2,3/3,4,4,6)				*2.00m bgl: becoming stiff.*
					2.40	24.80		Stiff orangish brown CLAY with grey mottling.
		2.70-3.25	D					
		2.80	SPT	N≥50 (7,9/13,13,13,11)				*2.80m bgl: becoming hard.*
					3.25	23.95		End of Borehole at 3.25m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. No groundwater encountered.
3. Refused early at 3.25m bgl including SPT on hard clay.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS106
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338408E, 349304N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	22.80m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	16/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.30-0.50	ES		0.20	22.60		MADE GROUND: Grass over dark brown slightly gravelly clay with frequent tree roots and rootlets. Gravel is angular fine of brick.
								MADE GROUND: Brown gravelly clay. Gravel is angular fine to coarse of brick, charcoal, and sandstone.
		1.00-1.20	ES		0.90	21.90		Greyish brown slightly silty fine to coarse SAND with orange mottling.
	▽	1.20	SPT	N=5 (1,1/1,1,1,2)	1.20	21.60		Very soft greyish brown sandy CLAY. Sand is fine to coarse.
		1.50-1.70	D		1.40	21.40		Soft orangish brown slightly sandy slightly gravelly CLAY with orange and black mottling. Sand is fine to coarse. Gravel is subangular fine of weathered sandstone.
		2.00	SPT	N=1 (0,0/0,0,0,1)	1.90	20.90		Very loose orangish brown sandy SILT. Sand is fine to coarse.
					2.10	20.70		Very soft grey CLAY.
	▽				2.30	20.50		Very loose grey sandy SILT with rare fibrous woody organics. Sand is fine to coarse.
		2.90-3.45	D		2.70	20.10		Firm brown CLAY with grey mottling.
	▽	3.00	SPT	N=12 (2,3/3,3,3,3)				
		3.90-4.45	D		3.60	19.20		Hard brown slightly gravelly CLAY. Gravel is subrounded fine to medium of weathered mudstone.
		4.00	SPT	N≥50 (4,6/11,13,13,13)				
					4.45	18.35		End of Borehole at 4.45m

Remarks

1. Principal Contractor responsible for service clearance.
2. Groundwater encountered at 1.30m, 2.50m, and 3.20m bgl as perched.
3. Refused early at 4.45m bgl including SPT on hard clay.
4. Installed with 1.60m plain pipe and 2.00m slotted pipe.
5. Backfilled with bentonite to 1.60m bgl, gravel from 1.60m to 3.60m bgl, and hole collapsed to 3.60m bgl. The well was installed raised above ground level.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS107
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338430E, 349294N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	23.00m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	16/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.20	22.80		Dark brown CLAY with frequent small tree roots and rootlets. (TOPSOIL)
		0.40-0.60	ES					Brown slightly sandy slighty gravelly CLAY with occasional rootlets. Sand is fine to coarse. Gravel is subrounded fine to medium of sandstone.
					0.70	22.30		Brown sandy CLAY with orange mottling. Sand is fine to coarse.
		1.20-1.40	D		1.20	21.80		Very soft brown slightly sandy silty CLAY with orange and black mottling. Sand is fine to coarse.
		1.20	SPT	N=4 (1,1/1,1,1,1)				
	▽				1.40	21.60		Very loose greyish brown silty fine to coarse SAND with occasional black fibrous woody organics.
					1.70	21.30		Light brown slightly silty slightly clayey fine to coarse SAND with frequent tree branches.
		2.00	SPT	N=0 (0,0/0,0,0,0)	2.00	21.00		Very loose blackish grey fine to coarse SAND with frequent black fibrous woody organics.
	▽	2.10-2.40	D		2.10	20.90		Very loose orangish grey silty fine to coarse SAND with occasional black fibrous woody organic material.
					2.40	20.60		Greyish brown silty fine to coarse SAND.
					2.50	20.50		Brown slightly gravelly CLAY. Gravel is subrounded fine of weathered mudstone.
					2.70	20.30		Hard brown slightly sandy slightly gravelly CLAY with grey mottling. Sand is fine to coarse. Gravel is subrounded fine to coarse of mudstone.
		2.80-3.00	D					
		3.00	SPT	N≥50 (3,6/11,13,13,13)				
					3.45	19.55		End of Borehole at 3.45m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. Groundwater encountered at 1.50m and 2.10m bgl as perched.
3. Refused early at 3.45m bgl including SPT on hard clay.
4. Installed with 0.80m plain pipe and 2.00m slotted pipe.
5. Backfilled with bentonite to 0.80m bgl, gravel from 0.80m to 2.80m bgl, and hole collapsed to 2.80m bgl. The well was installed raised above ground level.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS108
Sheet 1 of 1

PROJECT NO:	C6668	**CO-ORDS:**	338473E, 349259N
PROJECT NAME:	THE OAKS, WREXHAM	**LEVEL:**	22.50m OD
CLIENT:	FI CONSTRUCTION	**DATES:**	16/04/26

Hole Type	Scale	Logged	Checked
WS	1:25	CC	AJS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-0.20	ES		0.20	22.30		Moss over dark brown slightly sandy silty CLAY with frequent small roots and rootlets. Sand is fine to coarse. (TOPSOIL)
		0.40-0.60	ES					Brown slightly sandy silty CLAY with rare black mottling. Sand is fine to coarse.
		1.00-1.20	D		1.00	21.50		
	▽	1.20	SPT	N=1 (0,0/0,1,0,0)	1.20	21.30		Brown sandy clayey SILT with occasional orange and black mottling. Sand is fine to coarse.
					1.40	21.10		Very loose orangish brown slightly silty fine to coarse SAND.
					1.70	20.80		Very soft brown slightly clayey sandy SILT with black mottling. Sand is fine to coarse.
	▽	2.00-2.30 2.00	D SPT	N=2 (0,0/1,0,0,1)	2.00	20.50		Brown sandy silty CLAY. Sand is fine.
					2.30	20.20		Very loose grey sandy SILT. Sand is fine.
					2.40	20.10		Very soft grey sandy silty CLAY. Sand is fine.
		2.60-2.80	D					Brown CLAY with grey mottling.
		3.00-3.45 3.00	D SPT	N≥50 (5,9/12,12,13,13)				*3.00m bgl: becoming hard.*
					3.45	19.05		End of Borehole at 3.45m

1.0 2.0 3.0 4.0 5.0

Remarks

1. Principal Contractor responsible for service clearance.
2. Groundwater encountered at 1.20m and 2.00m bgl as perched.
3. Refused early at 3.45m bgl including SPT on hard clay.
4. Installed with 1.00m plain pipe and 2.00m slotted pipe.
5. Backfilled with bentonite to 1.00m bgl, gravel from 1.00m to 3.00m bgl. The well was installed at approximately ground level.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

APPENDIX C

Geotechnical Testing Results

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client Brownfield Solutions Ltd

Address William Smith House
173-183 Witton Street
Northwich
Cheshire
CW9 5LP

Contract C6668 - The Oaks, Wrexham

Job Number MRN 26012/18
Date of Issue 08 May 2026

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.

5 The results included within the report are representative of the samples submitted for analysis.

6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

MURRAY RIX

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

UKAS TESTING 1580

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

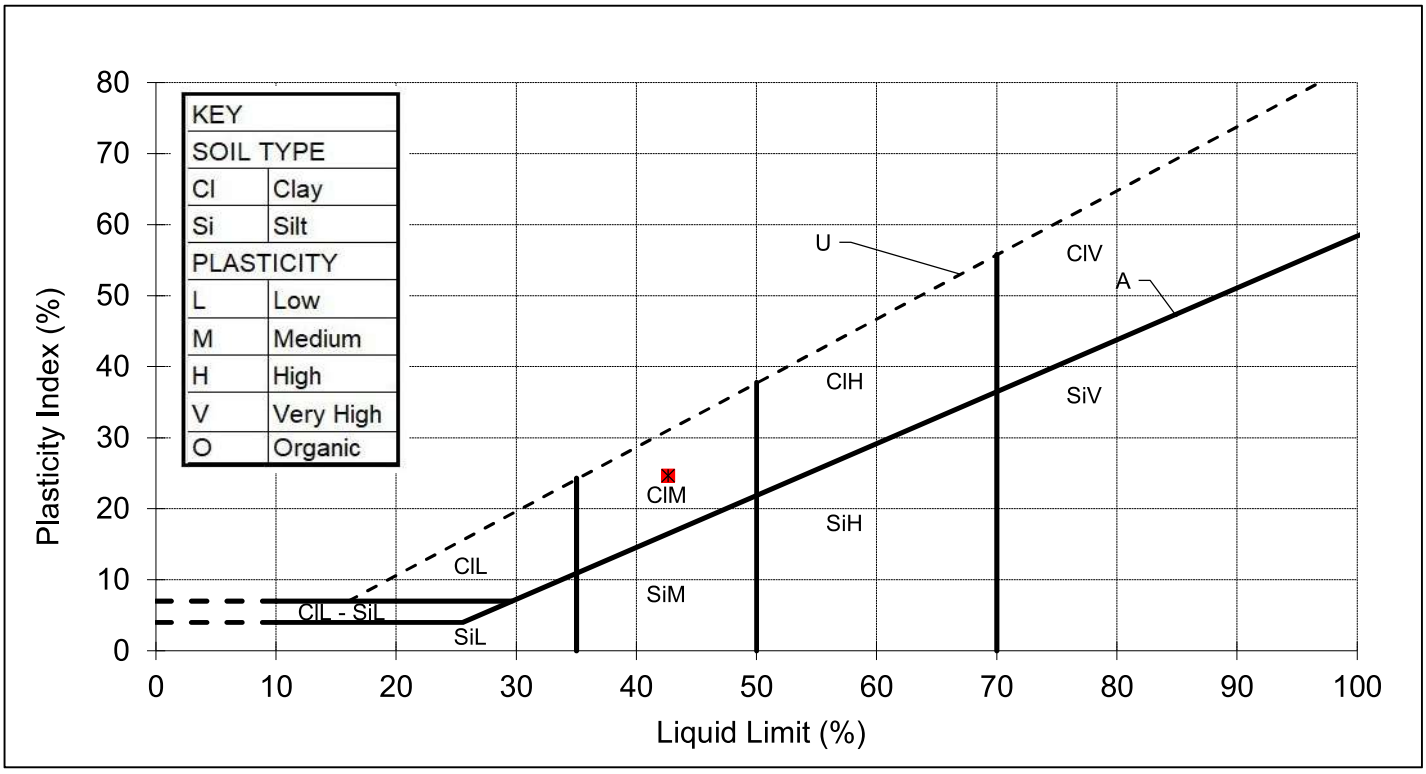
CLIENT	Brownfield Solutions Ltd
SITE	C6668 - The Oaks, Wrexham
JOB NUMBER	MRN 26012/18

SAMPLE LABEL	WS101 1.2-1.65m	DATE SAMPLED	15-Apr-26
SAMPLE No.	6088401	DATE RECEIVED	24-Apr-26
DATE TESTED	29-Apr-26	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
PRE TREATMENT	As received	% RET. 425um BY	Hand picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.9	42.6	1.002	
Determination 2 (avg)	19.9	42.5		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
18.7	43	18	25	96



REMARKS

SIGNED [redacted]

NAME O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE 08-May-26

MURRAY RIX

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

UKAS TESTING 1580

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

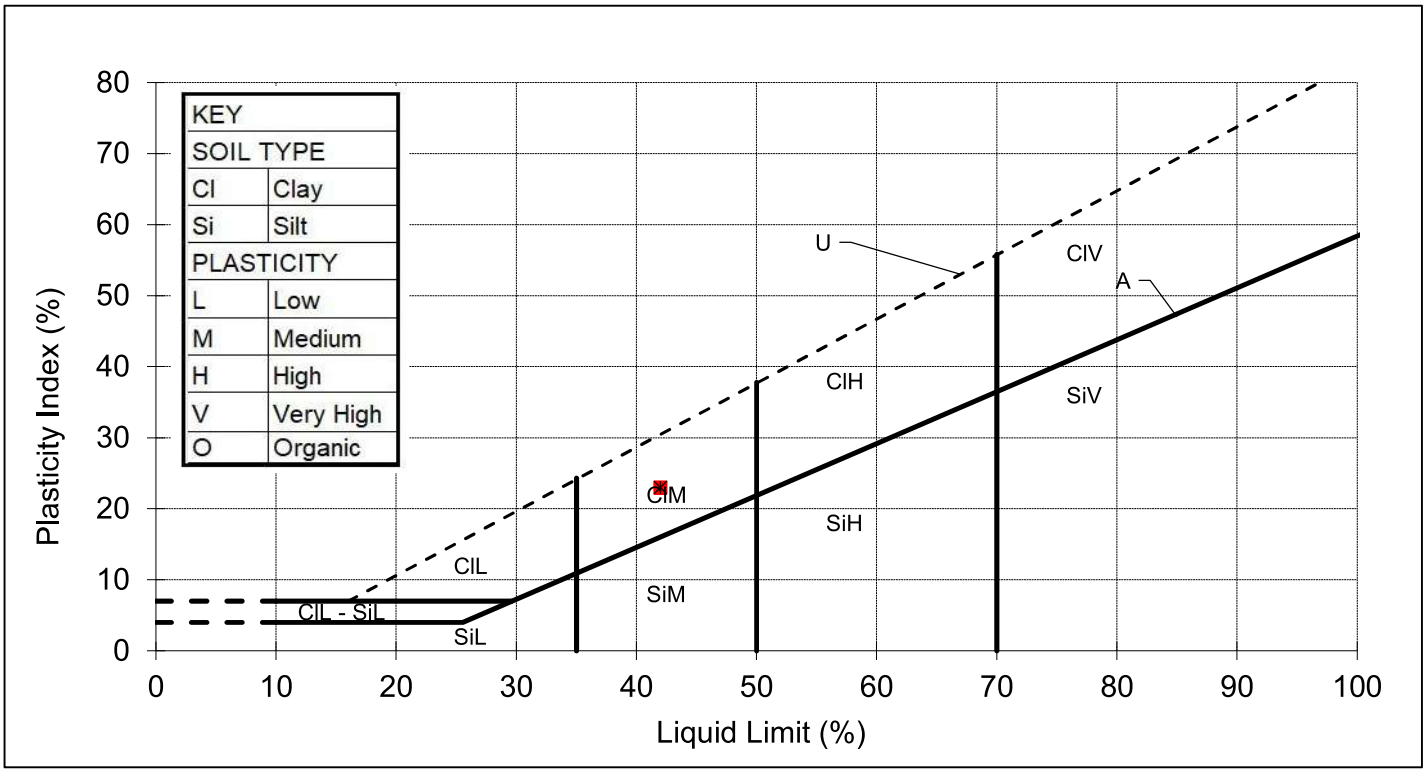
CLIENT	Brownfield Solutions Ltd
SITE	C6668 - The Oaks, Wrexham
JOB NUMBER	MRN 26012/18

SAMPLE LABEL	WS103 1.2-1.65m	DATE SAMPLED	15-Apr-26
SAMPLE No.	6088402	DATE RECEIVED	24-Apr-26
DATE TESTED	29-Apr-26	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
PRE TREATMENT	As received	% RET. 425um BY	Hand picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	17.3	39.9	1.052	
Determination 2 (avg)	17.1	39.9		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
23.3	42	19	23	96



REMARKS

SIGNED [redacted]

NAME O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE 08-May-26

MURRAY RIX

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

UKAS TESTING 1580

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

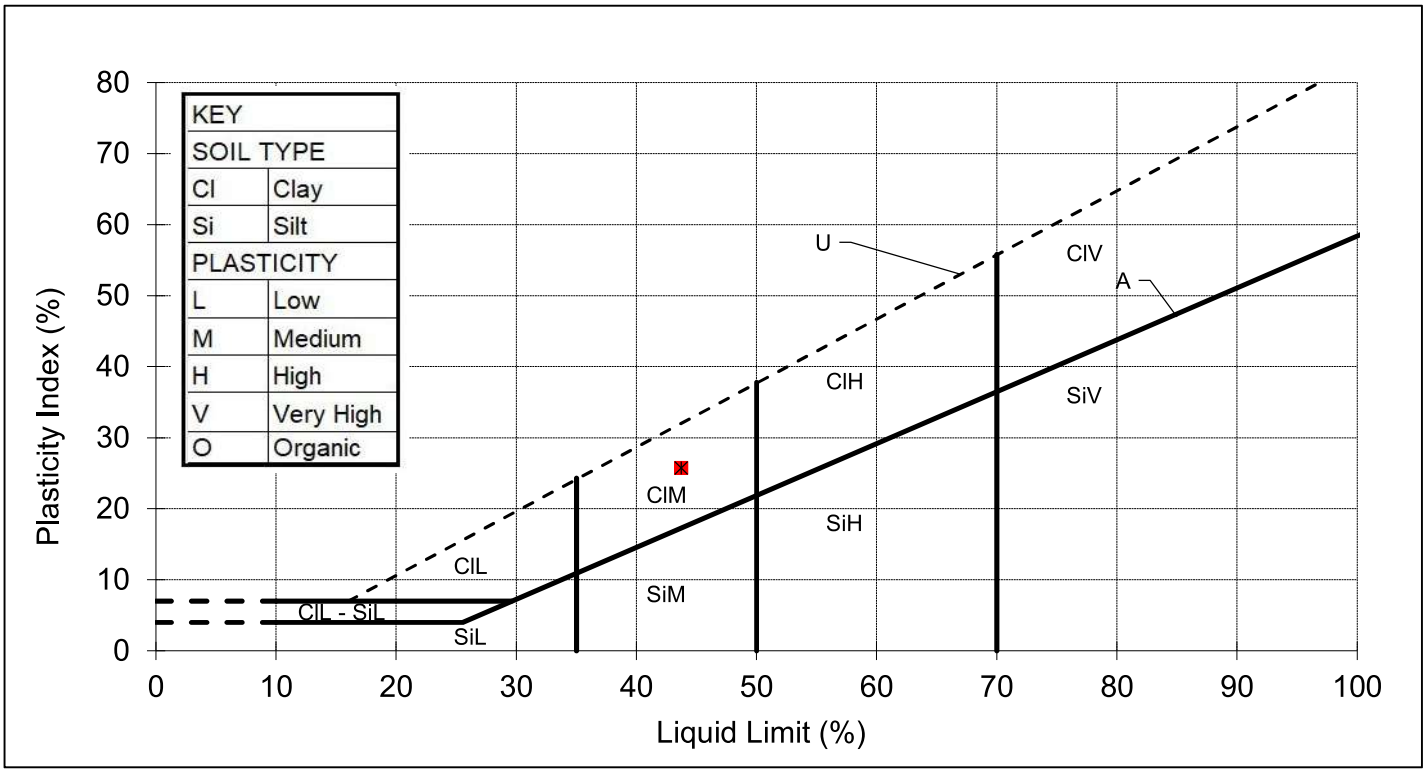
CLIENT	Brownfield Solutions Ltd
SITE	C6668 - The Oaks, Wrexham
JOB NUMBER	MRN 26012/18

SAMPLE LABEL	WS103 2.0-2.45m	DATE SAMPLED	15-Apr-26
SAMPLE No.	6088403	DATE RECEIVED	24-Apr-26
DATE TESTED	29-Apr-26	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
PRE TREATMENT	As received	% RET. 425um BY	Hand picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.5	43.3	1.011	
Determination 2 (avg)	19.4	43.2		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
22.9	44	18	26	97



REMARKS

SIGNED [redacted]

NAME O.P. Davies BA (Hons) DATE 08-May-26
(Director / Head of Laboratory)

MURRAY RIX

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

UKAS TESTING 1580

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

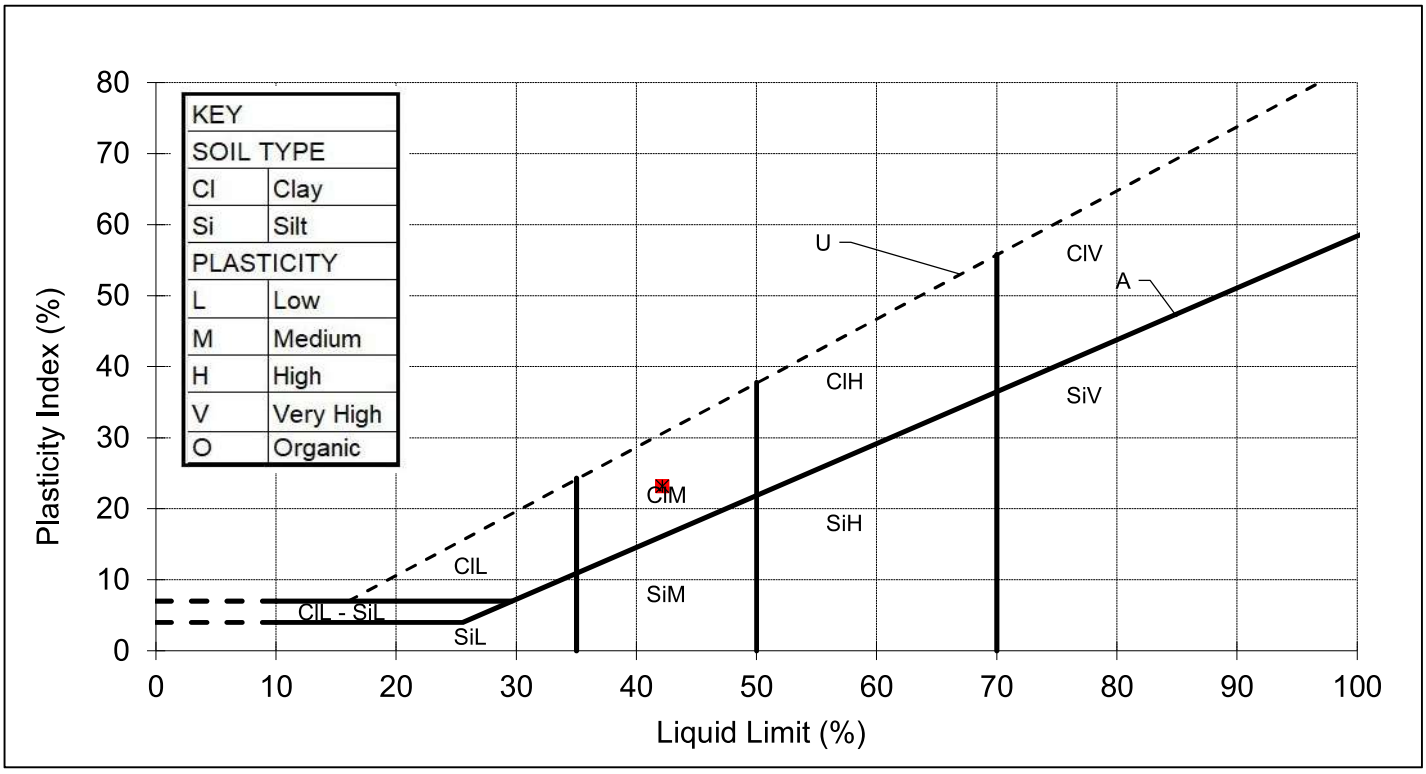
CLIENT	Brownfield Solutions Ltd
SITE	C6668 - The Oaks, Wrexham
JOB NUMBER	MRN 26012/18

SAMPLE LABEL	WS106 1.5-1.7m	DATE SAMPLED	15-Apr-26
SAMPLE No.	6088404	DATE RECEIVED	24-Apr-26
DATE TESTED	29-Apr-26	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
PRE TREATMENT	As received	% RET. 425um BY	Hand picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.0	42.1	1.000	
Determination 2 (avg)	20.0	42.2		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
26.6	42	19	23	95



REMARKS

SIGNED [redacted]

NAME (Director / Head of Laboratory) DATE 08-May-26

MURRAY RIX

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

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TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A1:2021 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

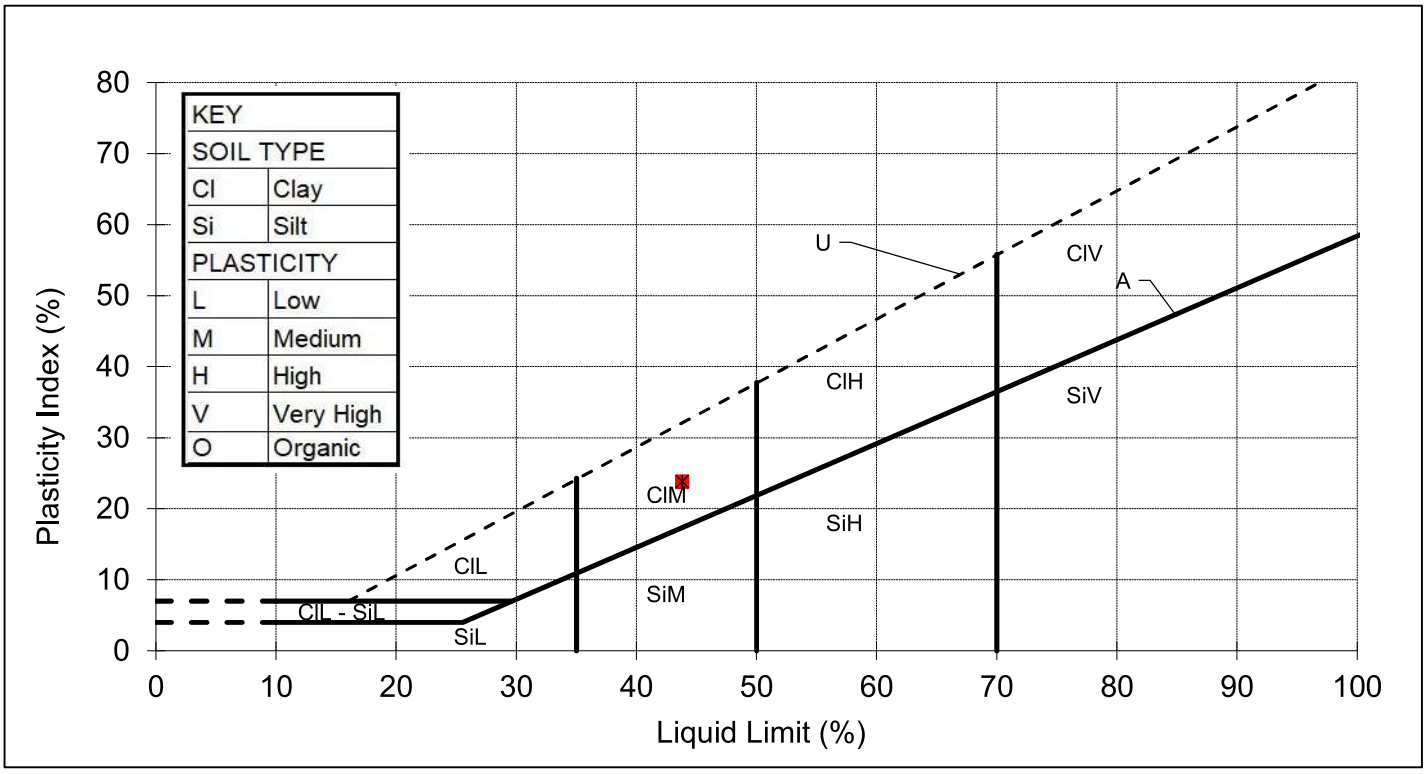
CLIENT	Brownfield Solutions Ltd
SITE	C6668 - The Oaks, Wrexham
JOB NUMBER	MRN 26012/18

SAMPLE LABEL	WS107 1.2-1.4m	DATE SAMPLED	15-Apr-26
SAMPLE No.	6088405	DATE RECEIVED	24-Apr-26
DATE TESTED	29-Apr-26	SAMPLED BY	Client

MATERIAL	Orangey brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
PRE TREATMENT	As received	% RET. 425um BY	Hand picked

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	20.5	44.1	0.991	
Determination 2 (avg)	20.6	44.3		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
32.6	44	20	24	96



REMARKS

SIGNED [redacted]

NAME O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE 08-May-26

APPENDIX D

Chemical Testing Results

ANALYTICAL TEST REPORT

Report Number	26-04895, issue number 1
Contract name:	The Oaks, Wrexham
Client reference:	C6668
Clients name:	Brownfield Solutions Ltd
Clients address:	Brownfield Solutions Ltd 173-183 Witton Street Northwich Cheshire CW9 5LP
Samples received:	27/04/2026
Analysis started:	27/04/2026
Analysis completed:	30/04/2026
Report issued:	30/04/2026

Key

U UKAS accredited test
M MCERTS & UKAS accredited test
(B) Analysis performed at Southampton Site
I/S Insufficient sample to carry out test
U/S Sample not suitable for testing
NAD No Asbestos Detected
Full key available on Information page

[redacted]

Approved by:

Rachael Burton
Technical Support Manager

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
102804	WS101	0.00 - 0.30	Red Sand with Gravel and Vegetation.	-	-	8.3
102805	WS101	1.70 - 1.90	Brown Sandy Clay with Gravel and Vegetation.	-	-	14.3
102806	WS102	0.40 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	17.5
102807	WS102	1.20 - 1.65	Brown Sandy Clay with Gravel and Vegetation.	-	-	14.3
102808	WS102	1.90 - 2.45	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.0
102809	WS103	0.30 - 0.60	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.4
102810	WS103	1.30 - 1.50	Brown Sandy Clay with Gravel and Vegetation.	-	-	14.8
102811	WS104	0.20 - 0.40	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.3
102812	WS104	1.20 - 1.40	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.8
102813	WS104	1.70 - 1.90	Brown Sandy Clay with Gravel and Vegetation.	-	-	18.8
102814	WS105	1.00 - 1.20	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.0
102815	WS105	1.80 - 2.00	Brown Sandy Clay with Gravel and Vegetation.	-	-	19.0
102816	WS106	0.30 - 0.50	Brown Sandy Clay with Gravel and Vegetation.	-	-	6.7
102817	WS106	1.00 - 1.20	Brown Sand with Gravel and Vegetation.	-	-	17.5
102818	WS107	0.40 - 0.60	Brown Sand with Gravel and Vegetation.	-	-	37.6
102819	WS108	0.00 - 0.20	Brown Sandy Clay with Gravel and Vegetation.	-	-	24.3

SOILS

Lab Number					102804	102805	102806	102807	102808
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS101	WS101	WS102	WS102	WS102
Depth (m)					0.00 - 0.30	1.70 - 1.90	0.40 - 0.60	1.20 - 1.65	1.90 - 2.45
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Asbestos									
Asbestos Identification	SUBCON	SU	0	-	NAD	n/t	NAD	n/t	n/t
Asbestos sample description	SUBCON	SN	0	-	-	n/t	-	n/t	n/t
Soil sample preparation parameters									
Stones Content	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Metals									
Water Soluble Magnesium	CE061	N	1	mg/l	n/t	n/t	8.88	18.6	n/t
Water Soluble Sulphate	CE061	M	10	mg/l	54.4	33.5	< 10.0	40.4	208
Acid Soluble Sulphate (SO4)	CE062	M	0.01	%	n/t	n/t	0.02	0.03	n/t
Arsenic	CE264	M	2.3	mg/kg	15.3	11.8	13.5	n/t	n/t
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	n/t	n/t
Chromium	CE264	U	1.3	mg/kg	27.8	35.1	50.0	n/t	n/t
Copper	CE264	M	1.2	mg/kg	30.8	18.3	20.5	n/t	n/t
Lead	CE264	U	2.4	mg/kg	21.0	13.9	16.0	n/t	n/t
Mercury	CE264	M	0.6	mg/kg	< 0.6	< 0.6	< 0.6	n/t	n/t
Nickel	CE264	M	1.6	mg/kg	32.8	36.9	47.7	n/t	n/t
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	n/t	n/t
Sulphur %	CE264	N	0.0026	%	n/t	n/t	0.0192	0.0218	n/t
Zinc	CE264	M	2.4	mg/kg	49.6	53.7	62.7	n/t	n/t
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	< 0.035	n/t	n/t	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
Colourimetric									
Water Soluble Chloride	CE261	U	1.5	mg/l	n/t	n/t	< 1.50	2.76	n/t

SOILS

Lab Number					102804	102805	102806	102807	102808
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS101	WS101	WS102	WS102	WS102
Depth (m)					0.00 - 0.30	1.70 - 1.90	0.40 - 0.60	1.20 - 1.65	1.90 - 2.45
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Nitrate as NO3	CE261	N	3.8	mg/l	n/t	n/t	< 3.80	< 3.80	n/t
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	n/t	n/t
Ammoniacal Nitrogen as NH4	CE262	N	0.14	mg/l	n/t	n/t	1.39	1.31	n/t
Chromium III	CE208	N	2	mg/kg	27.8	35.1	50.0	n/t	n/t
Combustion									
Moisture Content	CE001	N	0.1	%	8.3	14.3	17.5	14.3	16.0
Soil Organic Matter	CE192	N	0.1	%	1.57	0.76	0.98	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	n/t	n/t
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	n/t	n/t
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013	n/t	n/t
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013	n/t	n/t
Phenanthrene	CE087	M	0.014	mg/kg	0.097	< 0.014	< 0.014	n/t	n/t
Anthracene	CE087	U	0.017	mg/kg	0.175	< 0.017	< 0.017	n/t	n/t
Fluoranthene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017	n/t	n/t
Pyrene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	n/t	n/t
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.036	< 0.012	< 0.012	n/t	n/t
Chrysene	CE087	M	0.028	mg/kg	< 0.028	< 0.028	< 0.028	n/t	n/t
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.021	< 0.020	< 0.020	n/t	n/t
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	< 0.025	n/t	n/t
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019	< 0.019	< 0.019	n/t	n/t
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	< 0.019	n/t	n/t
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017	n/t	n/t
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	< 0.019	n/t	n/t
Total PAH(16)	CE087	N	0.28	mg/kg	0.329	< 0.280	< 0.280	n/t	n/t
BTEX									
Benzene	CE267	U	0.001	mg/kg	g < 0.001	n/t	n/t	n/t	n/t
Toluene	CE267	U	0.001	mg/kg	g < 0.001	n/t	n/t	n/t	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	g < 0.001	n/t	n/t	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	g < 0.002	n/t	n/t	n/t	n/t

SOILS

Lab Number					102804	102805	102806	102807	102808
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS101	WS101	WS102	WS102	WS102
Depth (m)					0.00 - 0.30	1.70 - 1.90	0.40 - 0.60	1.20 - 1.65	1.90 - 2.45
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
m,p-Xylene	CE267	U	0.002	mg/kg	g < 0.002	n/t	n/t	n/t	n/t
oXylenes	CE267	U	0.002	mg/kg	g < 0.002	n/t	n/t	n/t	n/t
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	< 1.0	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	2.4	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	10.5	n/t	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	2.6	n/t	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	n/t	n/t	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	1.6	n/t	n/t	n/t	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	6.1	n/t	n/t	n/t	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	6.4	n/t	n/t	n/t	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	48.2	n/t	n/t	n/t	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	23.9	n/t	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	7.9	8.4	8.3	8.4	8.4

SOILS

Lab Number					102809	102810	102811	102812	102813
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS103	WS103	WS104	WS104	WS104
Depth (m)					0.30 - 0.60	1.30 - 1.50	0.20 - 0.40	1.20 - 1.40	1.70 - 1.90
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Asbestos									
Asbestos Identification	SUBCON	SU	0	-	NAD	n/t	NAD	NAD	n/t
Asbestos sample description	SUBCON	SN	0	-	-	n/t	-	-	n/t
Soil sample preparation parameters									
Stones Content	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Metals									
Water Soluble Magnesium	CE061	N	1	mg/l	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	CE061	M	10	mg/l	36.9	74.3	11.2	43.8	80.3
Acid Soluble Sulphate (SO4)	CE062	M	0.01	%	n/t	n/t	n/t	n/t	n/t
Arsenic	CE264	M	2.3	mg/kg	12.6	11.8	9.9	11.1	11.8
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	1.3	< 1.1
Chromium	CE264	U	1.3	mg/kg	38.8	37.6	37.2	34.1	37.5
Copper	CE264	M	1.2	mg/kg	21.4	15.6	17.2	19.3	15.6
Lead	CE264	U	2.4	mg/kg	958	104	23.1	20.1	17.1
Mercury	CE264	M	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	33.8	34.5	38.4	37.5	36.2
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Sulphur %	CE264	N	0.0026	%	n/t	n/t	n/t	n/t	n/t
Zinc	CE264	M	2.4	mg/kg	281	72.7	61.9	129	59.3
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	< 0.035	n/t	n/t	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	< 0.015	n/t	n/t	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
Colourimetric									
Water Soluble Chloride	CE261	U	1.5	mg/l	n/t	n/t	n/t	n/t	n/t

SOILS

Lab Number					102809	102810	102811	102812	102813
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS103	WS103	WS104	WS104	WS104
Depth (m)					0.30 - 0.60	1.30 - 1.50	0.20 - 0.40	1.20 - 1.40	1.70 - 1.90
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Nitrate as NO3	CE261	N	3.8	mg/l	n/t	n/t	n/t	n/t	n/t
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Ammoniacal Nitrogen as NH4	CE262	N	0.14	mg/l	n/t	n/t	n/t	n/t	n/t
Chromium III	CE208	N	2	mg/kg	38.8	37.6	37.2	34.1	37.5
Combustion									
Moisture Content	CE001	N	0.1	%	16.4	14.8	16.3	16.8	18.8
Soil Organic Matter	CE192	N	0.1	%	1.55	0.71	0.78	0.74	1.31
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	< 0.014	< 0.014	< 0.014	0.042	< 0.014
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	0.052	< 0.017	< 0.017	< 0.017	< 0.017
Pyrene	CE087	M	0.016	mg/kg	0.065	< 0.016	< 0.016	< 0.016	< 0.016
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.062	< 0.012	< 0.012	< 0.012	< 0.012
Chrysene	CE087	M	0.028	mg/kg	0.049	< 0.028	< 0.028	< 0.028	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.105	< 0.020	< 0.020	< 0.020	< 0.020
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.039	< 0.025	< 0.025	< 0.025	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.081	< 0.019	< 0.019	< 0.019	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.096	< 0.019	< 0.019	< 0.019	< 0.019
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.098	< 0.019	< 0.019	< 0.019	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	0.647	< 0.280	< 0.280	< 0.280	< 0.280
BTEX									
Benzene	CE267	U	0.001	mg/kg	< 0.001	n/t	n/t	n/t	n/t
Toluene	CE267	U	0.001	mg/kg	< 0.001	n/t	n/t	n/t	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	n/t	n/t	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	< 0.002	n/t	n/t	n/t	n/t

SOILS

Lab Number					102809	102810	102811	102812	102813
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS103	WS103	WS104	WS104	WS104
Depth (m)					0.30 - 0.60	1.30 - 1.50	0.20 - 0.40	1.20 - 1.40	1.70 - 1.90
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	n/t	n/t	n/t	n/t
oXylenes	CE267	U	0.002	mg/kg	< 0.002	n/t	n/t	n/t	n/t
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	< 1.0	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	< 0.7	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	8.2	n/t	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	1.9	n/t	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	n/t	n/t	n/t	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	1.5	n/t	n/t	n/t	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	5.0	n/t	n/t	n/t	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	2.8	n/t	n/t	n/t	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	35.2	n/t	n/t	n/t	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	11.7	n/t	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	8.4	8.3	8.5	8.5	8.4

SOILS

Lab Number					102814	102815	102816	102817	102818
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS105	WS105	WS106	WS106	WS107
Depth (m)					1.00 - 1.20	1.80 - 2.00	0.30 - 0.50	1.00 - 1.20	0.40 - 0.60
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Asbestos									
Asbestos Identification	SUBCON	SU	0	-	NAD	n/t	NAD	n/t	n/t
Asbestos sample description	SUBCON	SN	0	-	-	n/t	-	n/t	n/t
Soil sample preparation parameters									
Stones Content	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Metals									
Water Soluble Magnesium	CE061	N	1	mg/l	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	CE061	M	10	mg/l	32.8	75.0	27.8	28.1	36.0
Acid Soluble Sulphate (SO4)	CE062	M	0.01	%	n/t	n/t	n/t	n/t	n/t
Arsenic	CE264	M	2.3	mg/kg	9.7	11.0	11.6	12.0	11.3
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	CE264	U	1.3	mg/kg	36.6	46.0	34.3	15.0	17.2
Copper	CE264	M	1.2	mg/kg	12.8	14.6	16.4	11.3	16.8
Lead	CE264	U	2.4	mg/kg	24.5	18.8	37.5	71.2	315
Mercury	CE264	M	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	31.4	41.6	34.2	15.5	14.8
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Sulphur %	CE264	N	0.0026	%	n/t	n/t	n/t	n/t	n/t
Zinc	CE264	M	2.4	mg/kg	53.7	61.6	64.6	89.0	115
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	< 0.035	n/t	0.140	n/t	n/t
PCB 101	CE137	M	0.015	mg/kg	< 0.015	n/t	0.020	n/t	n/t
PCB 118	CE137	M	0.015	mg/kg	< 0.015	n/t	0.045	n/t	n/t
PCB 138	CE137	M	0.015	mg/kg	< 0.015	n/t	0.046	n/t	n/t
PCB 153	CE137	M	0.01	mg/kg	< 0.010	n/t	0.029	n/t	n/t
PCB 180	CE137	M	0.01	mg/kg	< 0.010	n/t	< 0.010	n/t	n/t
PCB 28	CE137	M	0.015	mg/kg	< 0.015	n/t	< 0.015	n/t	n/t
PCB 52	CE137	M	0.01	mg/kg	< 0.010	n/t	< 0.010	n/t	n/t
Colourimetric									
Water Soluble Chloride	CE261	U	1.5	mg/l	n/t	n/t	n/t	n/t	n/t

SOILS

Lab Number					102814	102815	102816	102817	102818
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS105	WS105	WS106	WS106	WS107
Depth (m)					1.00 - 1.20	1.80 - 2.00	0.30 - 0.50	1.00 - 1.20	0.40 - 0.60
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Nitrate as NO3	CE261	N	3.8	mg/l	n/t	n/t	n/t	n/t	n/t
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Ammoniacal Nitrogen as NH4	CE262	N	0.14	mg/l	n/t	n/t	n/t	n/t	n/t
Chromium III	CE208	N	2	mg/kg	36.7	46.0	34.4	15.0	17.2
Combustion									
Moisture Content	CE001	N	0.1	%	16.0	19.0	6.7	17.5	37.6
Soil Organic Matter	CE192	N	0.1	%	1.60	1.00	1.62	1.93	14.0
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.075	< 0.014	0.017	0.033	0.018
Anthracene	CE087	U	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	0.020	< 0.017	0.025	0.140	0.043
Pyrene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	0.025	0.149	0.049
Benzo(a)anthracene	CE087	U	0.012	mg/kg	< 0.012	< 0.012	0.033	0.090	0.044
Chrysene	CE087	M	0.028	mg/kg	< 0.028	< 0.028	< 0.028	0.078	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	< 0.020	< 0.020	0.029	0.116	0.042
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025	< 0.025	< 0.025	0.040	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019	< 0.019	0.021	0.072	0.027
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	0.030	0.102	0.040
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019	< 0.019	0.020	0.071	0.026
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280	< 0.280	< 0.280	0.890	0.289
BTEX									
Benzene	CE267	U	0.001	mg/kg	g < 0.001	n/t	< 0.001	n/t	n/t
Toluene	CE267	U	0.001	mg/kg	g < 0.001	n/t	< 0.001	n/t	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	g < 0.001	n/t	< 0.001	n/t	n/t
MTBE	CE267	N	0.002	mg/kg	g < 0.002	n/t	< 0.002	n/t	n/t

SOILS

Lab Number					102814	102815	102816	102817	102818
Client Reference					ES	ES	ES	ES	ES
Sample ID					WS105	WS105	WS106	WS106	WS107
Depth (m)					1.00 - 1.20	1.80 - 2.00	0.30 - 0.50	1.00 - 1.20	0.40 - 0.60
Sampling Date					15/04/2026	15/04/2026	15/04/2026	15/04/2026	15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
m,p-Xylene	CE267	U	0.002	mg/kg	g < 0.002	n/t	< 0.002	n/t	n/t
oXylenes	CE267	U	0.002	mg/kg	g < 0.002	n/t	< 0.002	n/t	n/t
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	< 0.10	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	< 0.10	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	g < 0.10	n/t	< 0.10	n/t	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	< 1.0	n/t	< 1.0	n/t	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	n/t	< 0.5	n/t	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	< 0.7	n/t	< 0.7	n/t	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	< 4.0	n/t	< 4.0	n/t	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	n/t	< 0.5	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	< 0.010	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	< 0.010	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	g < 0.010	n/t	< 0.010	n/t	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	0.7	n/t	0.6	n/t	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	2.8	n/t	2.4	n/t	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	n/t	< 2.0	n/t	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	12.7	n/t	10.0	n/t	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	4.1	n/t	2.4	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	8.3	8.5	7.3	7.3	7.0

SOILS

Lab Number					102819
Client Reference					ES
Sample ID					WS108
Depth (m)					0.00 - 0.20
Sampling Date					15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**	
Asbestos					
Asbestos Identification	SUBCON	SU	0	-	NAD
Asbestos sample description	SUBCON	SN	0	-	-
Soil sample preparation parameters					
Stones Content	CE001	N	0.1	%	< 0.1
Metals					
Water Soluble Magnesium	CE061	N	1	mg/l	n/t
Water Soluble Sulphate	CE061	M	10	mg/l	35.1
Acid Soluble Sulphate (SO4)	CE062	M	0.01	%	n/t
Arsenic	CE264	M	2.3	mg/kg	15.6
Cadmium	CE264	M	1.1	mg/kg	< 1.1
Chromium	CE264	U	1.3	mg/kg	25.1
Copper	CE264	M	1.2	mg/kg	12.5
Lead	CE264	U	2.4	mg/kg	174
Mercury	CE264	M	0.6	mg/kg	< 0.6
Nickel	CE264	M	1.6	mg/kg	22.4
Selenium	CE264	M	3	mg/kg	< 3.0
Sulphur %	CE264	N	0.0026	%	n/t
Zinc	CE264	M	2.4	mg/kg	81.0
PCB (ICES 7 congeners)					
Total PCBs (7 congeners)	CE137	M	0.035	mg/kg	n/t
PCB 101	CE137	M	0.015	mg/kg	n/t
PCB 118	CE137	M	0.015	mg/kg	n/t
PCB 138	CE137	M	0.015	mg/kg	n/t
PCB 153	CE137	M	0.01	mg/kg	n/t
PCB 180	CE137	M	0.01	mg/kg	n/t
PCB 28	CE137	M	0.015	mg/kg	n/t
PCB 52	CE137	M	0.01	mg/kg	n/t
Colourimetric					
Water Soluble Chloride	CE261	U	1.5	mg/l	n/t

SOILS

Lab Number					102819
Client Reference					ES
Sample ID					WS108
Depth (m)					0.00 - 0.20
Sampling Date					15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**	
Nitrate as NO3	CE261	N	3.8	mg/l	n/t
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040
Ammoniacal Nitrogen as NH4	CE262	N	0.14	mg/l	n/t
Chromium III	CE208	N	2	mg/kg	25.1
Combustion					
Moisture Content	CE001	N	0.1	%	24.3
Soil Organic Matter	CE192	N	0.1	%	4.33
Polyaromatic hydrocarbons					
Naphthalene	CE087	M	0.016	mg/kg	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.015
Anthracene	CE087	U	0.017	mg/kg	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	0.035
Pyrene	CE087	M	0.016	mg/kg	0.035
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.039
Chrysene	CE087	M	0.028	mg/kg	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.024
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.021
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	< 0.280
BTEX					
Benzene	CE267	U	0.001	mg/kg	n/t
Toluene	CE267	U	0.001	mg/kg	n/t
Ethylbenzene	CE267	U	0.001	mg/kg	n/t
MTBE	CE267	N	0.002	mg/kg	n/t

SOILS

Lab Number					102819
Client Reference					ES
Sample ID					WS108
Depth (m)					0.00 - 0.20
Sampling Date					15/04/2026
Test	**Method**	**Accred**	**LoD**	**Units**	
m,p-Xylene	CE267	U	0.002	mg/kg	n/t
oXylenes	CE267	U	0.002	mg/kg	n/t
Total Petroleum Hydrocarbons					
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	n/t
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	0.7	mg/kg	n/t
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	4	mg/kg	n/t
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	n/t
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	n/t
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	n/t
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	n/t
Wet Chem					
pH	CE004	M	0.1	pH units	6.9

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
CE250	GCXGC in Soil	DCM Extraction and GCxGC-FID	As submitted sample
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE061	W. Sol Metals	ICPOES	Air dried sample
CE062	Acid Soluble Sulphate in Soils	HCl Extract and ICPOES	Air dried sample
CE137	PCB's in Soil	DCM Extraction and GCMS	As submitted sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE267	BTEX in Soils	Analysis by HSGCFID	As submitted sample
CE261	Anions by Discrete Analyser in Soils	Gallery	Air dried sample
CE263	ChromiumVI by Discrete Analyser in Soil	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE208	Chromium Hexavalent in Soil	Colorimetry	Air dried sample

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

a	Sampling date not provided
b	Sampling time not provided (waters only)
c	Sample not received in appropriate containers
d	Storage Temperature
e	Headspace present in sample container
f	Sample exceeded sampling to receipt
g	Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
102804	WS101	0.00 - 0.30	Y	BTEX in Soils(g), VPH in Soil(g)
102805	WS101	1.70 - 1.90	N	
102806	WS102	0.40 - 0.60	N	
102807	WS102	1.20 - 1.65	N	
102808	WS102	1.90 - 2.45	N	
102809	WS103	0.30 - 0.60	N	
102810	WS103	1.30 - 1.50	N	
102811	WS104	0.20 - 0.40	N	
102812	WS104	1.20 - 1.40	N	
102813	WS104	1.70 - 1.90	N	
102814	WS105	1.00 - 1.20	Y	BTEX in Soils(g), VPH in Soil(g)
102815	WS105	1.80 - 2.00	N	
102816	WS106	0.30 - 0.50	N	
102817	WS106	1.00 - 1.20	N	
102818	WS107	0.40 - 0.60	N	
102819	WS108	0.00 - 0.20	N	

REPORT INFORMATION

Report No.:26-04895, issue number 1

Key

U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

This report shall not be reproduced except in full, without prior written approval.

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones and 'inert' material, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

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

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

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Brownfield Solutions Limited
173-183 Witton Street
Northwich
Cheshire
United Kingdom
CW9 5LP

Attention :	Aaron Stokoe
Date :	18th May, 2026
Your reference :	C6668
Our reference :	Test Report 26/6280 Batch 1
Location :	The Oaks, Wrexham
Date samples received :	23rd April, 2026
Status :	Final Report
Issue :	202605181131

Three samples were received for analysis on 23rd April, 2026 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 0.434 kg of CO2

Scope 1&2&3 emissions - 1.027 kg of CO2

Authorised By:

[redacted]

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Brownfield Solutions Limited
Reference: C6668
Location: The Oaks, Wrexham
Contact: Aaron Stokoe
EMT Job No: 26/6280

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9									
Sample ID	WS101	WS102	WS105									
Depth	0.40-0.60	0.00-0.20	0.20-0.40									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	15/04/2026	15/04/2026	16/04/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	23/04/2026	23/04/2026	23/04/2026									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Nitrocellulose Colour*	-ve	-ve	-ve									None	Subcontracted
Nitrocellulose*	<5000	<5000	<5000									mg/kg	Subcontracted
Cyclotetramethylene Tetranitramine (HMX)*	<2	<2	<2									mg/kg	Subcontracted
Cyclo-1,3,5-Trimethylene-2,4,6-Trinitramine (RDX)*	<2	<2	<2									mg/kg	Subcontracted
Ethylene Glycol Dinitrate (EGDN)*	<1	<1	<1									mg/kg	Subcontracted
2,4,6-Trinitro-Phenylmethyl Nitramine (Tetryl)*	<1	<1	<1									mg/kg	Subcontracted
Glycerol Trinitrate (NG)*	<1	<1	,1									mg/kg	Subcontracted
2,4,6-Trinitrotoluene (TNT)*	<0.1	<0.1	<1									mg/kg	Subcontracted
2,6-Dinitrotoluene*	<1	<1	<3									mg/kg	Subcontracted
2,4-Dinitrotoluene*	<1	<1	<1									mg/kg	Subcontracted
Hexanitro-Stilbene (HNS)*	<0.5	<0.5	<0.5									mg/kg	Subcontracted
Pentaeryhritol Tetranitrate (PETN)*	<5	<5	<5									mg/kg	Subcontracted
Nitroguanidine (Picrite)*	<0.25	<0.25	<0.25									mg/kg	Subcontracted
2,4,6-Trinitro Phenol (Picric Acid)*	<0.1	<0.1	<0.1									mg/kg	Subcontracted

Element Materials Technology

Notification of Deviating Samples

Client Name: Brownfield Solutions Limited
Reference: C6668
Location: The Oaks, Wrexham
Contact: Aaron Stokoe

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/6280						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/6280

SOILS and ASH

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

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 26/6280

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
Subcontracted	See attached subcontractor report for accreditation status and provider.					AD	Yes

APPENDIX E

Waste Assessment 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:

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

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

FTNEX-WNVB5-3XAQE

Report is invalid if pages are removed.

Job name

The Oaks, Wrexham

Description/Comments

Project

C6668

Site

The Oaks, Wrexham

Classified by

Name:
Tom Lipscomb
Date:
12 May 2026 12:36 GMT
Telephone:
01606 334844

Company:
Brownfield Solutions Limited
5 Alfred Court
Saxon Business Park
Bromsgrove
B60 4AD

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	05 Feb 2026

Next 3 year Refresher due by Feb 2029

Purpose of classification

2 - Material Characterisation

Address of the waste

The Oaks, Wrexham **Post Code** LL13 9RD

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of former Royal Ordnance Factory Wrexham used in WW2. All buildings have since been removed from site and bunkers have been infilled since WW2. The proposed development area is currently bare ground with sparse trees.

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

Waste created during the excavation of soils for construction of the building foundations.

Description of the waste

Mixture of made ground and natural strata. The made ground generally comprised gravelly clay with gravels of brick, mudstone, burnt shale, and charcoal. The natural strata generally comprised clay and slightly gravelly clay with gravel of mudstone.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS101	0.00 - 0.30	Non Hazardous		3
2	WS101[2]	1.70 - 1.90	Non Hazardous		6
3	WS102	0.40 - 0.60	Non Hazardous		8
4	WS102[2]	1.20 - 1.65	Non Hazardous		10
5	WS102[3]	1.90 - 2.45	Non Hazardous		11
6	WS103	0.30 - 0.60	Non Hazardous		12
7	WS103[2]	1.30 - 1.50	Non Hazardous		15
8	WS104	0.20 - 0.40	Non Hazardous		17
9	WS104[2]	1.20 - 1.40	Non Hazardous		19
10	WS104[3]	1.70 - 1.90	Non Hazardous		21
11	WS105	1.00 - 1.20	Non Hazardous		23
12	WS105[2]	1.80 - 2.00	Non Hazardous		26
13	WS106	0.30 - 0.50	Non Hazardous		28
14	WS106[2]	1.00 - 1.20	Non Hazardous		31
15	WS107	0.40 - 0.60	Non Hazardous		33
16	WS108	0.00 - 0.20	Non Hazardous		35

Related documents

#	Name	Description
1	Example worst case waste stream template: 17 05 04 or 17 05 03 *	waste stream template used to create this Job

Report

Created by: Tom Lipscomb

Created date: 12 May 2026 12:36 GMT

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

Classification of sample: WS101

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

Sample details

Sample name:
WS101
Sample Depth:
0.00 - 0.30 m
Moisture content:
8.3%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				15.3 mg/kg	1.895	28.986 mg/kg	0.0029 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		27.8 mg/kg	1.462	40.631 mg/kg	0.00406 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		30.8 mg/kg	3.929	121.015 mg/kg	0.0121 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21 mg/kg	1.56	32.756 mg/kg	0.0021 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		32.8 mg/kg	5.358	175.753 mg/kg	0.0176 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		49.6 mg/kg	2.774	137.598 mg/kg	0.0138 %		
12	TPH (C6 to C40) petroleum group			TPH		101.7 mg/kg		101.7 mg/kg	0.0102 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
14	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
15	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
18		pH				7.9	pH		7.9	pH	7.9 pH		
				PH									
19		naphthalene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.097	mg/kg		0.097	mg/kg	0.0000097 %		
			201-581-5	85-01-8									
24		anthracene				0.175	mg/kg		0.175	mg/kg	0.0000175 %		
			204-371-1	120-12-7									
25		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
26		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.036	mg/kg		0.036	mg/kg	0.0000036 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.021	mg/kg		0.021	mg/kg	0.0000021 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0627 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 1000 mg/kg (0.1%) because: TPH concentrations too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0102%)

Classification of sample: WS101[2]

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

Sample details

Sample name:
WS101[2]
Sample Depth:
1.70 - 1.90 m
Moisture content:
14.3%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.3% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.8	mg/kg	1.895	22.355	mg/kg	0.00224 %		
2		cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1	mg/kg	1.855	<2.04	mg/kg	<0.000204 %		<LOD
3		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35.1	mg/kg	1.462	51.301	mg/kg	0.00513 %		
4		chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04	mg/kg	2.27	<0.0908	mg/kg	<0.00000908 %		<LOD
5		copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		18.3	mg/kg	3.929	71.902	mg/kg	0.00719 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13.9	mg/kg	1.56	21.681	mg/kg	0.00139 %		
7		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6	mg/kg	1.353	<0.812	mg/kg	<0.0000812 %		<LOD
8		nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		36.9	mg/kg	5.358	197.722	mg/kg	0.0198 %		
9		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
10		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		53.7	mg/kg	2.774	148.972	mg/kg	0.0149 %		
11		pH			PH		8.4	pH		8.4	pH	8.4 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
13		acenaphthylene		205-917-1	208-96-8		<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
14		acenaphthene		201-469-6	83-32-9		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
15		fluorene		201-695-5	86-73-7		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		**<LOD**
			201-581-5	85-01-8									
17		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		**<LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		**<LOD**
			205-912-4	206-44-0									
19		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		**<LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		**<LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		**<LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		**<LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		**<LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		**<LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		**<LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		**<LOD**
			205-883-8	191-24-2									
										Total:	0.0506 %		

Key

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

Classification of sample: WS102

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

Sample details

Sample name:
WS102
Sample Depth:
0.40 - 0.60 m
Moisture content:
17.5%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.5% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				13.5 mg/kg	1.895	25.576 mg/kg	0.00256 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		50 mg/kg	1.462	73.078 mg/kg	0.00731 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		20.5 mg/kg	3.929	80.546 mg/kg	0.00805 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16 mg/kg	1.56	24.957 mg/kg	0.0016 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		47.7 mg/kg	5.358	255.592 mg/kg	0.0256 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62.7 mg/kg	2.774	173.939 mg/kg	0.0174 %		
12	pH			PH		8.3 pH		8.3 pH	8.3 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
14	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
15	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
17		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
			201-581-5	85-01-8									
18		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
19		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
20		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0625 %		

Key

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

Classification of sample: WS102[2]

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

Sample details

Sample name:
WS102[2]
Sample Depth:
1.20 - 1.65 m
Moisture content:
14.3%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.3% No 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		8.4 pH		8.4 pH	8.4 pH		
								Total:	0%		

Key

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

Classification of sample: WS102[3]

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

Sample details

Sample name:
WS102[3]
Sample Depth:
1.90 - 2.45 m
Moisture content:
16%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16% No 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		8.4 pH		8.4 pH	8.4 pH		
								Total:	0%		

Key

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

Classification of sample: WS103

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

Sample details

Sample name:
WS103
Sample Depth:
0.30 - 0.60 m
Moisture content:
16.4%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16.4% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No							
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				12.6	mg/kg	1.895	23.871	mg/kg	0.00239 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1	mg/kg	1.855	<2.04	mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.8	mg/kg	1.462	56.708	mg/kg	0.00567 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04	mg/kg	2.27	<0.0908	mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		21.4	mg/kg	3.929	84.082	mg/kg	0.00841 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	958	mg/kg	1.56	1494.303	mg/kg	0.0958 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6	mg/kg	1.353	<0.812	mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		33.8	mg/kg	5.358	181.111	mg/kg	0.0181 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		281	mg/kg	2.774	779.535	mg/kg	0.078 %		
12	TPH (C6 to C40) petroleum group			TPH		67	mg/kg		67	mg/kg	0.0067 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
14	benzene	601-020-00-8	200-753-7	71-43-2		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
15	toluene	601-021-00-3	203-625-9	108-88-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
18		pH				8.4	pH		8.4	pH	8.4 pH		
				PH									
19		naphthalene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
			201-581-5	85-01-8									
24		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.052	mg/kg		0.052	mg/kg	0.0000052 %		
			205-912-4	206-44-0									
26		pyrene				0.065	mg/kg		0.065	mg/kg	0.0000065 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.062	mg/kg		0.062	mg/kg	0.0000062 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				0.049	mg/kg		0.049	mg/kg	0.0000049 %		
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.105	mg/kg		0.105	mg/kg	0.0000105 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				0.039	mg/kg		0.039	mg/kg	0.0000039 %		
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.081	mg/kg		0.081	mg/kg	0.0000081 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.096	mg/kg		0.096	mg/kg	0.0000096 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.098	mg/kg		0.098	mg/kg	0.0000098 %		
			205-883-8	191-24-2									
										Total:	0.215 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 1000 mg/kg (0.1%) because: TPH concentrations too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0067%)

Classification of sample: WS103[2]

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

Sample details

Sample name:
WS103[2]
Sample Depth:
1.30 - 1.50 m
Moisture content:
14.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.8 mg/kg	1.895	22.355 mg/kg	0.00224 %		
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
3	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.6 mg/kg	1.462	54.954 mg/kg	0.0055 %		
4	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
5	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		15.6 mg/kg	3.929	61.293 mg/kg	0.00613 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	104 mg/kg	1.56	162.221 mg/kg	0.0104 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
8	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		34.5 mg/kg	5.358	184.862 mg/kg	0.0185 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		72.7 mg/kg	2.774	201.68 mg/kg	0.0202 %		
11	pH			PH		8.3 pH		8.3 pH	8.3 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene	201-581-5	85-01-8		<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
17		anthracene	204-371-1	120-12-7		<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
18		fluoranthene	205-912-4	206-44-0		<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
19		pyrene	204-927-3	129-00-0		<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
20		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
21		chrysene	601-048-00-0	205-923-4	218-01-9		<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
22		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
23		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
25		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
26		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
27		benzo[ghi]perylene	205-883-8	191-24-2		<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
										Total:	0.0629 %		

Key

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

Classification of sample: WS104

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

Sample details

Sample name:
WS104
Sample Depth:
0.20 - 0.40 m
Moisture content:
16.3%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				9.9 mg/kg	1.895	18.756 mg/kg	0.00188 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.2 mg/kg	1.462	54.37 mg/kg	0.00544 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		17.2 mg/kg	3.929	67.58 mg/kg	0.00676 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23.1 mg/kg	1.56	36.032 mg/kg	0.00231 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		38.4 mg/kg	5.358	205.759 mg/kg	0.0206 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		61.9 mg/kg	2.774	171.72 mg/kg	0.0172 %		
12	pH			PH		8.5 pH		8.5 pH	8.5 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
14	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
15	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
17		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
			201-581-5	85-01-8									
18		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
19		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
20		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0541 %		

Key

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

Classification of sample: WS104[2]

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

Sample details

Sample name:
WS104[2]
Sample Depth:
1.20 - 1.40 m
Moisture content:
16.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.1 mg/kg	1.895	21.029 mg/kg	0.0021 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.3 mg/kg	1.855	2.411 mg/kg	0.000241 %		
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.1 mg/kg	1.462	49.839 mg/kg	0.00498 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		**<LOD**
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		19.3 mg/kg	3.929	75.831 mg/kg	0.00758 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20.1 mg/kg	1.56	31.352 mg/kg	0.00201 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		**<LOD**
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		37.5 mg/kg	5.358	200.937 mg/kg	0.0201 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		**<LOD**
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		129 mg/kg	2.774	357.865 mg/kg	0.0358 %		
12	pH			PH		8.5 pH		8.5 pH	8.5 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		**<LOD**
14	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		**<LOD**
15	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
17		phenanthrene				0.042	mg/kg		0.042	mg/kg	0.0000042 %		
			201-581-5	85-01-8									
18		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
19		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
20		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
21		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0728 %		

Key

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

Classification of sample: WS104[3]

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

Sample details

Sample name:
WS104[3]
Sample Depth:
1.70 - 1.90 m
Moisture content:
18.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 18.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.8 mg/kg	1.895	22.355 mg/kg	0.00224 %		
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
3	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.5 mg/kg	1.462	54.808 mg/kg	0.00548 %		
4	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
5	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		15.6 mg/kg	3.929	61.293 mg/kg	0.00613 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17.1 mg/kg	1.56	26.673 mg/kg	0.00171 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
8	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		36.2 mg/kg	5.358	193.971 mg/kg	0.0194 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		59.3 mg/kg	2.774	164.507 mg/kg	0.0165 %		
11	pH			PH		8.4 pH		8.4 pH	8.4 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
			201-581-5	85-01-8									
17		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
18		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
19		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0514 %		

Key

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

Classification of sample: WS105

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

Sample details

Sample name:
WS105
Sample Depth:
1.00 - 1.20 m
Moisture content:
16%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				9.7 mg/kg	1.895	18.377 mg/kg	0.00184 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.7 mg/kg	1.462	53.639 mg/kg	0.00536 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		12.8 mg/kg	3.929	50.292 mg/kg	0.00503 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	24.5 mg/kg	1.56	38.215 mg/kg	0.00245 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		31.4 mg/kg	5.358	168.251 mg/kg	0.0168 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		53.7 mg/kg	2.774	148.972 mg/kg	0.0149 %		
12	TPH (C6 to C40) petroleum group			TPH		20.3 mg/kg		20.3 mg/kg	0.00203 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
14	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
15	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
18		pH				8.3	pH		8.3	pH	8.3 pH		
				PH									
19		naphthalene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.075	mg/kg		0.075	mg/kg	0.0000075 %		
			201-581-5	85-01-8									
24		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.02	mg/kg		0.02	mg/kg	0.000002 %		
			205-912-4	206-44-0									
26		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0484 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 1000 mg/kg (0.1%) because: TPH concentrations too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00203%)

Classification of sample: WS105[2]

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

Sample details

Sample name:
WS105[2]
Sample Depth:
1.80 - 2.00 m
Moisture content:
19%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11	mg/kg	1.895	20.84	mg/kg	0.00208 %		
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1	mg/kg	1.855	<2.04	mg/kg	<0.000204 %		<LOD
3	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		46	mg/kg	1.462	67.232	mg/kg	0.00672 %		
4	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04	mg/kg	2.27	<0.0908	mg/kg	<0.00000908 %		<LOD
5	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		14.6	mg/kg	3.929	57.364	mg/kg	0.00574 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	18.8	mg/kg	1.56	29.325	mg/kg	0.00188 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6	mg/kg	1.353	<0.812	mg/kg	<0.0000812 %		<LOD
8	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		41.6	mg/kg	5.358	222.906	mg/kg	0.0223 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		61.6	mg/kg	2.774	170.887	mg/kg	0.0171 %		
11	pH			PH		8.5	pH		8.5	pH	8.5 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene				<0.014	mg/kg		<0.014	mg/kg	<0.0000014 %		<LOD
			201-581-5	85-01-8									
17		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
18		fluoranthene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			205-912-4	206-44-0									
19		pyrene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.012	mg/kg		<0.012	mg/kg	<0.0000012 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0558 %		

Key

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

Classification of sample: WS106

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

Sample details

Sample name:
WS106
Sample Depth:
0.30 - 0.50 m
Moisture content:
6.7%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 6.7% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No							
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.6	mg/kg	1.895	21.976	mg/kg	0.0022 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1	mg/kg	1.855	<2.04	mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.4	mg/kg	1.462	50.278	mg/kg	0.00503 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04	mg/kg	2.27	<0.0908	mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		16.4	mg/kg	3.929	64.436	mg/kg	0.00644 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	37.5	mg/kg	1.56	58.493	mg/kg	0.00375 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6	mg/kg	1.353	<0.812	mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		34.2	mg/kg	5.358	183.254	mg/kg	0.0183 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		64.6	mg/kg	2.774	179.21	mg/kg	0.0179 %		
12	TPH (C6 to C40) petroleum group			TPH		15.4	mg/kg		15.4	mg/kg	0.00154 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
14	benzene	601-020-00-8	200-753-7	71-43-2		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
15	toluene	601-021-00-3	203-625-9	108-88-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
18		pH				7.3	pH		7.3	pH	7.3 pH		
				PH									
19		naphthalene				<0.016	mg/kg		<0.016	mg/kg	<0.0000016 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20		acenaphthylene				<0.015	mg/kg		<0.015	mg/kg	<0.0000015 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-469-6	83-32-9									
22		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
23		phenanthrene				0.017	mg/kg		0.017	mg/kg	0.0000017 %		
			201-581-5	85-01-8									
24		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
25		fluoranthene				0.025	mg/kg		0.025	mg/kg	0.0000025 %		
			205-912-4	206-44-0									
26		pyrene				0.025	mg/kg		0.025	mg/kg	0.0000025 %		
			204-927-3	129-00-0									
27		benzo[a]anthracene				0.033	mg/kg		0.033	mg/kg	0.0000033 %		
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				0.029	mg/kg		0.029	mg/kg	0.0000029 %		
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				0.021	mg/kg		0.021	mg/kg	0.0000021 %		
		601-032-00-3	200-028-5	50-32-8									
32		indeno[123-cd]pyrene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34		benzo[ghi]perylene				0.02	mg/kg		0.02	mg/kg	0.000002 %		
			205-883-8	191-24-2									
										Total:	0.0552 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 1000 mg/kg (0.1%) because: TPH concentrations too low to be flammable

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00154%)

Classification of sample: WS106[2]

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

Sample details

Sample name:
WS106[2]
Sample Depth:
1.00 - 1.20 m
Moisture content:
17.5%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.5% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				12 mg/kg	1.895	22.734 mg/kg	0.00227 %		
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
3	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	21.923 mg/kg	0.00219 %		
4	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
5	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		11.3 mg/kg	3.929	44.398 mg/kg	0.00444 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	71.2 mg/kg	1.56	111.059 mg/kg	0.00712 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
8	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		15.5 mg/kg	5.358	83.054 mg/kg	0.00831 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		89 mg/kg	2.774	246.899 mg/kg	0.0247 %		
11	pH			PH		7.3 pH		7.3 pH	7.3 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene	201-581-5	85-01-8		0.033	mg/kg		0.033	mg/kg	0.0000033 %		
17		anthracene	204-371-1	120-12-7		<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<**LOD**
18		fluoranthene	205-912-4	206-44-0		0.14	mg/kg		0.14	mg/kg	0.000014 %		
19		pyrene	204-927-3	129-00-0		0.149	mg/kg		0.149	mg/kg	0.0000149 %		
20		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.09	mg/kg		0.09	mg/kg	0.000009 %		
21		chrysene	601-048-00-0	205-923-4	218-01-9	0.078	mg/kg		0.078	mg/kg	0.0000078 %		
22		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.116	mg/kg		0.116	mg/kg	0.0000116 %		
23		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.04	mg/kg		0.04	mg/kg	0.000004 %		
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.072	mg/kg		0.072	mg/kg	0.0000072 %		
25		indeno[123-cd]pyrene	205-893-2	193-39-5		0.102	mg/kg		0.102	mg/kg	0.0000102 %		
26		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<**LOD**
27		benzo[ghi]perylene	205-883-8	191-24-2		0.071	mg/kg		0.071	mg/kg	0.0000071 %		
										Total:	0.0491 %		

Key

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

Classification of sample: WS107

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

Sample details

Sample name:
WS107
Sample Depth:
0.40 - 0.60 m
Moisture content:
37.6%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 37.6% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.3 mg/kg	1.895	21.408 mg/kg	0.00214 %		
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
3	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17.2 mg/kg	1.462	25.139 mg/kg	0.00251 %		
4	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
5	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		16.8 mg/kg	3.929	66.008 mg/kg	0.0066 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	315 mg/kg	1.56	491.342 mg/kg	0.0315 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
8	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		14.8 mg/kg	5.358	79.303 mg/kg	0.00793 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		115 mg/kg	2.774	319.027 mg/kg	0.0319 %		
11	pH			PH		7 pH		7 pH	7pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		phenanthrene				0.018	mg/kg		0.018	mg/kg	0.0000018 %		
			201-581-5	85-01-8									
17		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				0.043	mg/kg		0.043	mg/kg	0.0000043 %		
			205-912-4	206-44-0									
19		pyrene				0.049	mg/kg		0.049	mg/kg	0.0000049 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.044	mg/kg		0.044	mg/kg	0.0000044 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.042	mg/kg		0.042	mg/kg	0.0000042 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.027	mg/kg		0.027	mg/kg	0.0000027 %		
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.026	mg/kg		0.026	mg/kg	0.0000026 %		
			205-883-8	191-24-2									
										Total:	0.0826 %		

Key

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

Classification of sample: WS108

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

Sample details

Sample name:
WS108
Sample Depth:
0.00 - 0.20 m
Moisture content:
24.3%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 24.3% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	asbestos fibres detected (Yes/No)			ACM_FIBRES		No					
2	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				15.6 mg/kg	1.895	29.555 mg/kg	0.00296 %		
3	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<1.1 mg/kg	1.855	<2.04 mg/kg	<0.000204 %		<LOD
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.1 mg/kg	1.462	36.685 mg/kg	0.00367 %		
5	chromium in Cr(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.04 mg/kg	2.27	<0.0908 mg/kg	<0.00000908 %		<LOD
6	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		12.5 mg/kg	3.929	49.113 mg/kg	0.00491 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	174 mg/kg	1.56	271.408 mg/kg	0.0174 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.6 mg/kg	1.353	<0.812 mg/kg	<0.0000812 %		<LOD
9	nickel { nickel dibromate }	028-053-00-5	238-596-1	14550-87-9		22.4 mg/kg	5.358	120.026 mg/kg	0.012 %		
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		81 mg/kg	2.774	224.706 mg/kg	0.0225 %		
12	pH			PH		6.9 pH		6.9 pH	6.9 pH		
13	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
14	acenaphthylene		205-917-1	208-96-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
15	acenaphthene		201-469-6	83-32-9		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluorene				<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<LOD
			201-695-5	86-73-7									
17		phenanthrene				0.015	mg/kg		0.015	mg/kg	0.0000015 %		
			201-581-5	85-01-8									
18		anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
			204-371-1	120-12-7									
19		fluoranthene				0.035	mg/kg		0.035	mg/kg	0.0000035 %		
			205-912-4	206-44-0									
20		pyrene				0.035	mg/kg		0.035	mg/kg	0.0000035 %		
			204-927-3	129-00-0									
21		benzo[a]anthracene				0.039	mg/kg		0.039	mg/kg	0.0000039 %		
		601-033-00-9	200-280-6	56-55-3									
22		chrysene				<0.028	mg/kg		<0.028	mg/kg	<0.0000028 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
23		benzo[b]fluoranthene				0.024	mg/kg		0.024	mg/kg	0.0000024 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.025	mg/kg		<0.025	mg/kg	<0.0000025 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
26		indeno[123-cd]pyrene				0.021	mg/kg		0.021	mg/kg	0.0000021 %		
			205-893-2	193-39-5									
27		dibenz[a,h]anthracene				<0.017	mg/kg		<0.017	mg/kg	<0.0000017 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
28		benzo[ghi]perylene				<0.019	mg/kg		<0.019	mg/kg	<0.0000019 %		<LOD
			205-883-8	191-24-2									
										Total:	0.0634 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

asbestos fibres detected (Yes/No) (CAS Number: ACM_FIBRES)

Description/Comments: not classified, information only
Data source: N/A
Data source date: 15 Jan 2020
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: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from:: IARC Group 2B (77) 2000

pH (CAS Number: PH)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic acid and its salts with the exception of those specified elsewhere in this Annex}

Worst case CLP species based on hazard statements/molecular weight and conversion factor for arsenic acid H3AsO4. (edit as required)

cadmium {cadmium sulfate}

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

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

There isn't enough Metal and Cr(VI) to make the Metal chromate

chromium in Cr(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {copper sulphate pentahydrate}

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Reasonable worst case CLP species based on hazard statements/molecular weight and assuming no evidence for the use of explosives. (edit as required)

nickel {nickel dibromate}

Worst case CLP species based on hazard statements/molecular weight. (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2026.83.7020.12656 (25 Mar 2026)
HazWasteOnline Database: 2026.83.7020.12656 (25 Mar 2026)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

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