



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

VERSION 1.0

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Tier Consult Ltd

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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 1 of 45
Engineer: Eve Rowland
Date: 28/05/2021

CONTENTS

1.	INTRODUCTION	8
1.1.	Proposed Development	8
1.2.	Previous Reports	8
1.3.	Objectives	8
1.4.	Assumptions.....	9
2.	SITE DETAILS AND DESCRIPTION	10
3.	REVIEW OF SHEPHERD GILMOUR REPORT AND UPDATED PRELIMINARY RISK ASSESSMENT	11
4.	PRELIMINARY CONCEPTUAL SITE MODEL	13
4.1.	Uncertainties.....	13
5.	FIELDWORK	15
5.1.	Scope of Ground Investigation.....	15
5.2.	Geo-environmental Testing	16
5.3.	Geotechnical Testing.....	16
6.	GROUND CONDITIONS.....	18
6.1.	Strata Profile	18
6.2.	Strata Descriptions.....	20
6.3.	Obstructions.....	20
6.4.	Visual and Olfactory Evidence of Contamination	20
6.5.	Groundwater Observations During Fieldwork	20
7.	PRELIMINARY GEOTECHNICAL ASSESSMENT	21
7.1.	Mining and Quarrying	21
7.2.	Determination of pH and Water-Soluble Sulphate.....	21
7.3.	Geotechnical Parameters.....	21
7.4.	Floors	25
7.5.	Groundworks, Excavation Stability and Groundwater Dewatering	26
8.	HUMAN HEALTH RISK ASSESSMENT	27
8.1.	Data Interpretation Approach	27
8.2.	Selection of Generic Assessment Criteria (GAC)	27
8.3.	Human Health Risk Assessment.....	28
8.4.	Utilities	28
8.5.	Construction and Maintenance Workers.....	28
9.	GROUND GAS RISK ASSESSMENT	29



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 2 of 45
Engineer: Eve Rowland
Date: 28/05/2021

9.1.	Introduction	29
9.2.	Ground Gas Monitoring Results.....	29
9.3.	Ground Gas Risk Assessment.....	31
9.4.	Radon Gas	33
10.	REVISED CONCEPTUAL MODEL AND GENERIC QUANTITATIVE RISK ASSESSMENT OF POLLUTANT LINKAGES	36
11.	PRELIMINARY WASTE SOILS CLASSIFICATION AND WASTE DISPOSAL ROUTE DETERMINATION	38
12.	CONCLUSIONS AND RECOMMENDATIONS	39
12.1.	Conclusions	39
12.2.	Recommendations	39
13.	REGULATORY APPROVALS	40
14.	REFERENCES	41
15.	GLOSSARY OF TERMS.....	44

TABLES

Table 2.1 Current Site Overview.	10
Table 3.1 Report Review Summary	11
Table 4.1 Preliminary Assessment of Potential Pollutant Linkages.	14
Table 5.1 Scope of Ground Investigation and Rationale	15
Table 5.2 Scope of Monitoring Installations	15
Table 5.3 Schedule of Chemical Testing for Human Health Risk Assessment and Preliminary Waste Soils Assessment.	16
Table 5.4 Geotechnical Laboratory Testing Schedule.	17
Table 7.1 Results of Soil pH Testing and Water-Soluble Sulphate Determination.....	21
The data obtained during the Ground Investigation has been assessed for the recorded soil types in order to provide characteristic values in order to aid the final foundation design Table 7.2 below shows soil classification results for cohesive soils.	21
Table 7.3 Soil Classification Test Results for Cohesive Till.	22
Table 7.4 Summary of Natural Moisture Content and Atterberg Limits.....	23
Table 7.5 Summary of undrained shear strength values for natural clay strata.....	24
Table 9.1 Ground Gas Monitoring Results Summary	30
Table 9.2 From Table 5.5a CIRIA C665 - Typical/idealised periods of monitoring (after Wilson et al, 2005)	31
Table 9.3 From Table 5.5b CIRIA C665 - Typical/idealised frequency of monitoring (after Wilson et al, 2005)	31
Table 9.4 Initial Worst-Case GSV Calculation	32



**GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM**

Project No :	TE1456GIR1.0
Page No :	3 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

Table 9.5 Ground Gas Protection Measure Requirements.....	35
Table 10.1 Revised Assessment of Pollutant Linkages.....	37



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	4 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

FIGURES

Figure 2.1 Recent Aerial Photograph from Google Earth.....	10
Figure 6.1 Schematic Drawing of Ground Conditions	19
Figure 7.1 Plot of Modified Plasticity Index against reduced level	23
Figure 7.2 SPT N value vs reduced depth.....	25



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	5 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

APPENDICES

Appendix A - Drawings

Appendix B - Exploratory Hole Logs

Appendix C - Geoenvironmental Soil Laboratory Results

Appendix D - Geotechnical In Situ Fieldwork and Laboratory Results

Appendix E - Groundwater and Gas Monitoring Results

Appendix F - Photographs

Appendix G - Previous Site Investigation Report (Available as a Separate Document)

Appendix H - Definitions of Terms Used in Qualitative and Quantitative Risk Assessments

Appendix I - Human Health Assessment Criteria

Appendix J - Assessment Criteria Applied for Ground Gas

Appendix K - Chemical and Geotechnical Test Sampling

Appendix L - Complying With Control of Asbestos Regulations 2012



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 6 of 45
Engineer: Eve Rowland
Date: 28/05/2021

EXECUTIVE SUMMARY

Introduction	Tier Environmental was commissioned by Tier Consult Ltd on behalf of Net World Sports Ltd to undertake a Ground Investigation at land off Bryn Lane, Wrexham. The purpose of the investigation was to assess the nature of soil and groundwater beneath the Site for the purposes of environmental and geotechnical assessment.
Proposed land use	It is proposed that the site will be developed as a warehouse/storage unit with associated offices, parking, roadways and soft landscaped areas. Areas of proposed soft landscaping are located mainly in the northern and western areas of the Site; however smaller areas of soft landscaping are present across the site as a whole.
Site location and surrounding land uses	The site is located at Plot 3A, Bryn Lane, Wrexham Industrial Estate, Holt, Wrexham, LL13 9UT. The site is surrounded by agriculture fields to the north (beyond Ridley Wood Road), east and south of the Site. Wrexham Industrial estate is located to the west of Site beyond Bryn Lane. Trees are located immediately to the southern and eastern boundaries of the Site.
Site history	Historical maps and third party information states the Site has been historically undeveloped and has been used for agricultural purposes.
Potential contaminative features	No significant potentially contaminative features have been identified on the Site.
Mining and quarrying	The Site is not located within a mining area or an area subject to historic quarrying.
Previous investigations	A Geo-Environmental Desk Study was conducted for the Site by Shepherd Gilmour Environmental Ltd in October 2011. Conclusions of this desk study identified potential contamination sources associated with Made Ground within infilled ponds, potential ground gas associated with unknown Made Ground deposits and impacts on of Site from trade effluent discharges into the tertiary river adjacent to the southern Site boundary.
Fieldwork	Tier Environmental conducted 3 No. days fieldwork on 6 th , 9 th and 10 th April 2021 which comprised: • 1 No. day window sample drilling (WS1 to WS4 and WS6) to depths between 3.50m bgl and 5.45m bgl to determine the nature and extent of soil and groundwater and obtain samples for geo-environmental and geotechnical analysis. • 3 No. cable percussive boreholes (CP1 to CP3) to depths between 10.00m bgl and 10.45m bgl to determine the nature and extent of soil and groundwater and obtain samples for geo-environmental and geotechnical analysis. • Excavation of 6 No. hand dug pits (HDP1 to HDP6) to obtain shallow soil samples for geo-environmental analysis.
Laboratory testing	Samples of soil were submitted for analysis of a range of metal, other inorganic and organic components including asbestos. Geotechnical testing was scheduled on selected samples. All testing was undertaken at accredited laboratories.
Ground conditions	Topsoil was encountered at ground level in all exploratory hole locations to depths between 0.23m bgl to 0.38m bgl. Underlying the Topsoil was firm to stiff, locally very stiff clay (Till). Till was encountered in all exploratory hole locations to a maximum depth of 10.45m bgl, however the base of this unit was not encountered
Ground stability	The ground across the Site was stable.
Foundations and floor slabs	The preferred, most economic foundation solution is likely to be shallow spread foundations (pads or strip) within the Till and it is proposed that floor slabs are ground bearing.
Design Sulphate class	It is considered that a Design Sulphate Class of DS-1 and ACEC Class AC-1 is appropriate for buried concrete at the Site within the topsoil and a Design Sulphate Class of DS-2 and ACEC Class AC-2 is appropriate for buried concrete at the Site within the Till.
Human Health Risk Assessment	No measured soil concentrations of potential contaminants of concern have been reported in excess of Generic Assessment Criteria (GACs) protective of human health appropriate to commercial site end use
Ground Gas Risk Assessment	A Gas Screening Value of 0.0039 l/hr has been calculated, derived using the maximum recorded carbon dioxide concentration of 1.3 %v/v and the maximum peak flow rate of 0.3 l/hr. Assessment of this gas screening value alone places the Site in a Characteristic Situation 1 – Very Low risk scenario in accordance with CIRIA C665 for which ground gas protection measures are not required. <u>However, until the Ground Gas monitoring is completed, it is recommended that Characteristic Situation 2 – Low risk Scenario in which basic gas protection measures are required is adopted for the Site.</u> The results of carbon monoxide and hydrogen sulphide monitoring has determined that neither gas has been detected. The current GSV and Characteristic Situation is based off 3 No. monitoring visits. The ground gas risk assessment will be updated upon completion of the gas monitoring.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 7 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Radon Requirements	Data from UKRadon.org indicates that the majority of the Site lies within an area where less than 1% of the properties lie above the action level, therefore no radon protection measures are required. However, the north-western corner of the Site falls into an area where 1% - 3% of the properties lie above the action level. This is most likely the result of the bedrock Salop Formation, which is shown on the BGS records to be overlain by approx. 30m to 40m of superficial Till, meaning radon is unlikely to affect this area. however, although unlikely, any proposed buildings with basement levels in the north-western corner of the Site which falls into the 1% to 3% action level, should have a Visqueen (or equivalent) barrier membrane installed.
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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 8 of 45
Engineer: Eve Rowland
Date: 28/05/2021

1. INTRODUCTION

Tier Environmental was commissioned by Tier Consult Ltd on behalf of Net World Sports Ltd to undertake a Ground Investigation Report for an area of land referred to as Net World Sports, Wrexham, located at Plot 3A, Bryn Lane, Holt, Wrexham, LL13 9UT (the "Site").

The title of this report is in accordance with that described in the Land Contamination Risk Management guidance (available at <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>) which has superseded CLR 11:

Stage 1:

- LCRM Tier 1 Preliminary Risk Assessment Report
- LCRM Tier 2 Generic Quantitative Risk Assessment Report

1.1. Proposed Development

Under current proposals the development will comprise a single-storey warehouse/storage unit with associated offices, parking roadways and soft landscaped areas. Areas of proposed soft landscaping are located mainly in the northern and western areas of the Site; however smaller areas of soft landscaping are present across the site as a whole.) as presented in Appendix A. As such, in accordance with the '*Updated technical background to the CLEA model*' (Environment Agency, 2009) and '*Suitable 4 Use Levels*' (LQM / CIEH 2015) the proposed generic land use for this development is commercial / industrial.

1.2. Previous Reports

The following report was made available to Tier Environmental to review, the findings of the report is presented in Section 3.

- Shepherd Gilmour Environmental Ltd – 'Geo-Environmental Desk study of Plot 3A, Bryn Lane, Wrexham Industrial Estate, Wrexham' (Report reference: T01515 CM (ME1178) dated October 2011).

1.3. Objectives

Taking into account the proposed development of the Site, the objectives of this appraisal were:

- To review previous pertinent third party reports;
- To determine current ground and groundwater conditions.
- To determine the potential risks to human health and the wider environment.
- To determine potential risks posed to the Site from hazardous ground gases and / or vapours.
- Provide preliminary outline remedial measures to manage any identified risks.
- To provide preliminary geotechnical parameters to inform floor slab and foundation recommendations.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 9 of 45
Engineer: Eve Rowland
Date: 28/05/2021

1.4. Assumptions

The following assumptions are made in this report:

- It is assumed that ground levels will not change significantly from those described in this report or as shown on proposed development drawings. If this is not the case, then amendments to the recommendations made in this report may be required.
- The ground investigation has been designed with due consideration of known or suspected constraints (including underground services and access constraints).
- Any references to observations of suspected asbestos-containing materials are for information only and should be verified by a suitably qualified asbestos specialist and/or confirmed by laboratory analysis.
- The use of the term 'Topsoil' within this report is based on a visual identification only and that these materials have not been classified in accordance with BS3882:2015.
- The use of the terms 'shallow' and 'deep' within this report assume *typically* between ground level to circa 5.00m below ground level (bgl) for 'shallow' and greater than 5.00m bgl regarded as 'deep'.
- The comments and opinions presented in this report are based on the findings of the review of third-party information, ground conditions encountered during intrusive investigation works performed by Tier Environmental and the results of tests carried out within one or more laboratories. There may be other conditions prevailing on the Site which have not been revealed by this investigation and which have not been taken into account by this report.
- Responsibility cannot be accepted for any conditions not revealed by this investigation. Any diagram or opinion on the possible configuration of the findings is conjectural and given for guidance only. Confirmation of intermediate ground conditions should be undertaken if deemed necessary.

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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 10 of 45
Engineer: Eve Rowland
Date: 28/05/2021

2. SITE DETAILS AND DESCRIPTION

Table 2.1 Current Site Overview.

Site name	Net World Sports, Wrexham.
Site address	Plot 3A, Bryn Lane, Holt Wrexham Industrial Estate, Wrexham, LL13 9UT. A site location plan is included as Drawing No. TE1456GIR1.0 within Appendix A.
National Grid Reference (NGR)	339265, 350806.
Approximate Site area	20.6 ha.
Site shape	The Site is rectangular in shape.
Current land use on the Site	The Site is currently undeveloped and comprises of 3 No. fields, which have historically been used for agriculture with ponds, hedgerows and trees all present on Site.
Surrounding land uses	The site has agriculture fields to the north beyond Ridley Wood Road, and to the east and south of the Site. Wrexham Industrial estate is located to the west of Site beyond Bryn Lane. Trees are located immediately to the south and south east boundaries of the Site.
General topography and ground levels	The Western part of the Site is approx. 32m AOD dropping to 25m AOD in the east. The Site is accessed by gates (a gate to each separate field) on Ridley Wood Road.

An aerial photograph of the Site and site boundary is shown below. Relevant Site photographs are presented in Appendix F.

Figure 2.1 Recent Aerial Photograph from Google Earth





GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 11 of 45
Engineer: Eve Rowland
Date: 28/05/2021

3. REVIEW OF SHEPHERD GILMOUR REPORT AND UPDATED PRELIMINARY RISK ASSESSMENT

Shepherd Gilmour Environmental Ltd produced a 'Geo-Environmental Desk study of Plot 3A, Bryn Lane, Wrexham Industrial Estate, Wrexham' (Report reference: T01515 CM (ME1178) dated October 2011). The Shepherd Gilmour Report included a strip of land to the south and is no longer part of the revised redline boundary as presented in Figure 2.1.

The table below summarises the desk study and incorporates updated preliminary risk assessment by Tier Environmental where appropriate.

Table 3.1 Report Review Summary

Site history	The historical plans show that the Site has been undeveloped (open fields) since earliest available mapping (1873).
Potential contaminative features identified	The following summarises potential contamination on Site: • Unknown Made Ground or Made Ground within infilled ponds. • Potential ground gases associated with unknown Made Ground on Site
Mining and quarrying	A coal mining report (Coal and Brine Report) was obtained from the Coal Authority for the Site immediately south of the study area which indicates that the Site is not likely within the zone of influence on the surface from past or present mine workings. The property is not in an area where coal is believed to exist at or close to the surface which may have been worked in the past. A review of the Coal Authority interactive map confirms the site is not in a High-Risk Development Area or there are recorded mine entries. The Environmental Database Search does not report any significant issued as a result of collapsible ground, ground dissolution, landslides, running sand, shrinking, swelling clay or compressible ground.
Geology	The site is underlain with drift deposits comprising Glacial Till deposits which overly the solid geology of the Lower Mottled Sandstone and the Sandstone/Mudstone/Conglomerate of the Salop Formation for the western part of the site and Kinnerton Sandstone Formation for the eastern part of the site.
Hydrogeology and Hydrology	The nearest water course is an unnamed tertiary river forming the southern boundary of the main development area and there are a number of drainage ponds and ditches on Site. There are no recorded potable water abstractions within 1km of the Site. The Site is located over both a Principal and Secondary A Aquifer (bedrock formations). The Glacial Till deposits are classed as an unproductive aquifer. The Site is not within 250m of a Source Protection Zone.
Landfills	Information obtained within the Environmental Database Search as part of the Shepherd Gilmour desk study indicates that there are no licensed landfill sites within 250m of the Site. There is an Environment Agency licensed waste site located 121m south of the Site operated by Waste Recycling Group and this receives less than 25,000 tonnes of household, industrial and commercial waste. The review of historical maps indicate that former ponds present on Site may have been infilled. Tier Environmental has reviewed the historical maps which show 5 No. potential infilled ponds; 2 No. in the centre of the northern field, 2 No. in the centre of the middle field (shown to be potentially existing) and 1 No. in the centre of the southern field.
Fuel/Chemical storage	No fuel or chemical storage has been identified within 250m of the Site, however, the Shepherd Gilmour report identifies a number of tanks in close proximity of the Site. The current Site outline has now changed meaning these tanks are no longer in close proximity or pertinent to the Site. Below is an excerpt from the Shepherd Gilmour report: "Historical plans and Site layout plans show a number of tanks located between 40m and 100m south and west of the main development area. The contents of these tanks are unknown. The Environmental Database Search indicates 1 No. fuel station entry within 250m of the Site. The details of it are as follows: • Cpl Petroleum Wrexham – 20m west of the Site."



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 12 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Ground Gas	There is potential for ground gas generation (especially localised in the areas of potential infilled ponds) within the Made Ground and sub-surface Soils which may pose a risk to future site users and any proposed buildings on site through vapour/gas inhalation and vapour/gas ingress and accumulation within buildings.
Geotechnical risks	A low potential for compressible and collapsible ground was identified in the Environmental Database Search, and further investigation of the potential hazards associated with potential areas of Made Ground, the location of on-Site ponds/drainage ditches in relation to the proposed development, and differential settlement from the proposed structure are considered necessary due to the size and potential loadings of the proposed development. Prior to future phases of development, a full geotechnical assessment of the soils underlying would be required.
Radon Requirements	Shepherd Gilmour states "The Site does not lie within an area where radon protection measures are required." However, Tier Environmental has reviewed Radon information from UKRadon.org which "shows the majority of the Site lies in an area where less than 1% of the properties lie above the action level with the exception of the north-western corner of the Site falls into an area where 1% - 3% of properties lie above the action level. Based on this assessment no radon protection measures are required.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	13 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

4. PRELIMINARY CONCEPTUAL SITE MODEL

Based on the information provided in the previous sections of this report a combined preliminary conceptual site model and conceptual exposure model has been developed for the proposed future land use. This summarises the understanding of surface and sub-surface features, the potential contaminant sources, transport pathways and receptors. In assessing the likely contaminants of concern present at the Site, reference has also been made to Defra and Environment Agency supporting documentation. A preliminary qualitative risk assessment has also been made of the likelihood of the linkage operating and its potential significance in accordance with CIRIA C552.

The potential pollutant linkages identified and the qualitative risk assessment for these are presented in Table 4.1 below. The terms used in the preliminary qualitative risk assessment are defined in Appendix H.

4.1. Uncertainties

The following uncertainties exist in the preliminary conceptual model:

- The presence of any features unrecorded by the historic maps.
- Any unrecorded geological features.
- Any unrecorded pollution events during the Site's history.



GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 14 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 4.1 Preliminary Assessment of Potential Pollutant Linkages.

Justification / Comments	Source	Potential Contaminants of Concern	Pathway	Receptor	Consequence	Probability	Qualitative Risk Assessment
<u>The Information Included in the preliminary conceptual site model has been obtained from publicly available sources (British Geological Survey, GeoIndex, The Coal Authority and The Environment Agency, along with reviewed information obtained from third party reports.</u> • The Site is located at Plot 3A, Bryn Road, Holt, Wrexham Industrial Estate, Wrexham, LL19UT. The surrounding land uses to the Site are commercial/Industrial; • The Site has remained undeveloped since earliest available mapping (1873) and comprises open fields, possibly historically used for agricultural purposes. • The site has agriculture fields to the north beyond Ridley Wood Road, and to the east and south of the Site. Wrexham Industrial estate is located to the west of Site beyond Bryn Lane. Trees are located immediately to the south and south east boundaries of the Site. • The Site's superficial geology comprises of Glacial (Diamicton) Till, an Unproductive Aquifer, overlaying the Lower Mottled Sandstone Formation (Sherwood Sandstone Group) and the Salop Formation (Westphalian D) comprising sandstones, mudstones and conglomerate. The bedrock formations are a Principal Aquifer and Secondary A Aquifer respectively. • The nearest water course is an unnamed tertiary river forming the southern boundary of the main development area and there are a number of drainage ponds and ditches on Site. There are no recorded potable wate abstractions within 1km of the Site. The Site is located over both a Principal and Secondary A Aquifer (bedrock formations). The Glacial Till deposits are not afforded an aquifer classification. The Site is not within 250m of a Source Protection Zone. • Information obtained within the Environmental Database Search indicates that there are no licensed landfill sites within 250m of the Site. There is an Environment Agency licensed waste site located 121m south of the Site operated by Waste Recycling Group and this receives less than 25,000 tonnes of household, industrial and commercial waste. The review of historical maps indicate that former ponds present on Site may have been infilled. • Data from UKRadon.org shows that the majority of the Site lies within an area where less than 1% of the properties lie above the action level, therefore no radon protection measures are required. However, the north western corner of the Site falls into an area where 1% - 3% of the properties lie above the action level. • There is potential for localised ground gas generation within the Made Ground and sub-surface Soils from historical backfilled ponds which may pose a risk to future site users and any proposed buildings on site through vapour/gas inhalation and vapour/gas ingress and accumulation within buildings. • The Site is not located within an ecologically sensitive area.	Anticipated localised Made Ground contamination associated with Made Ground (general, at the Site entrance gates and potential infilled pond deposits) present on Site.	Metals	Direct contact, ingestion and inhalation of dust	Future Site end users	Medium	Low Likelihood	Moderate / low risk
		PAHs	Leaching and migration via groundwater	Ground/Site workers	Medium	Low Likelihood	
		Phenols	Lateral and vertical migration of mobile contaminants	Adjacent properties	Medium	Unlikely	
		pH		Underlying Aquifers	Medium	Unlikely	
	Potential for asbestos contamination within the Made Ground deposits of former backfilled ponds (localised)	Asbestos	Direct contact, ingestion and inhalation of dust	Future Site end users	Medium	Low Likelihood	Moderate / low risk
			Dust migration	Ground/Site workers	Medium	Low Likelihood	
	Potential for ground gas generated from assumed backfilled Ponds or potential Made Ground on Site.	Hazardous Ground Gas	Vapour inhalation	Future Site end users	Medium	Unlikely	Moderate / low risk
			Lateral and vertical migration of mobile contaminants	Ground/Site workers	Medium	Unlikely	
				Proposed buildings on Site	Severe	Unlikely	

For definition of the terms used in the qualitative risk assessment, please see Appendix H.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 15 of 45
Engineer: Eve Rowland
Date: 28/05/2021

5. FIELDWORK

The information contained in this report is limited to areas of land accessible during the ground investigation within the Site boundary, as indicated on the Site plan, presented in Appendix A as Drawing No. TE1456GIR1.0.

Tier Environmental scoped the intrusive ground investigation using guidance presented in:

- BS 10175:2011+A2:2017;
- Land Contamination Risk Management (LCRM) - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>;
- BS 5930:2015+A1:2020;
- BS EN 1997:2004 and 2007.

Tier Environmental's standard strata description criteria are compliant with the above guidance.

5.1. Scope of Ground Investigation

The ground investigation was conducted between 6th and 10th April 2021 and was supervised by a suitably qualified Tier Environmental engineer. Table 5.1 below provides a summary of the exploratory holes completed and rationale. Exploratory hole locations are presented on Drawing No. TE1456GIE2.0.

Table 5.1 Scope of Ground Investigation and Rationale

Exploratory Hole Type	Exploratory Hole Reference	Exploratory Hole Depths (m bgl)	Rationale
Window sample boreholes	WS1 to WS4 and WS6.	3.50m bgl to 5.45m bgl.	To confirm the shallow ground conditions across the Site, conduct <i>in situ</i> geotechnical tests, facilitate soil sampling for geotechnical and geo-environmental parameters and installation of combined gas and groundwater monitoring wells.
Cable percussion boreholes	CP1 to CP3	10.00m bgl to 10.45m bgl	To confirm the shallow and deeper ground conditions across the Site, conduct <i>in situ</i> geotechnical tests, facilitate soil sampling for geotechnical and geo-environmental parameters and installation of combined gas and groundwater monitoring wells.
Hand dug pits	HDP1 to HDP6	0.60m bgl to 1.00 bgl	To confirm the shallow ground conditions across the Site and facilitate soil sampling for and geo-environmental parameters

No constraints were encountered during the ground investigation.

Table 5.2 Scope of Monitoring Installations

Exploratory Hole Location	Strata Targeted	Slotted Response Zone (m bgl)	Rationale
WS3	Till	0.50m bgl to 3.00m bgl.	Targeting shallow ground gas and potential shallow groundwater body.
WS6	Till	0.50m bgl to 5.00m bgl	Targeting shallow ground gas and potential shallow groundwater body.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 16 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Exploratory Hole Location	Strata Targeted	Slotted Response Zone (m bgl)	Rationale
CP1	Till	1.00m bgl to 10.00m bgl	Targeting shallow ground gas and potential groundwater body.
CP2	Till	1.00m bgl to 10.00m bgl	Targeting shallow ground gas and potential groundwater body.
CP3	Till	1.00m bgl to 10.00m bgl	Targeting shallow ground gas and potential groundwater body.

Depths and accurate descriptions of strata and groundwater observations made during investigation works, together with details of the samples recovered, are presented on the Engineer's exploratory hole records in Appendix B.

5.2. Geo-environmental Testing

Sampling and QA/QC protocols are presented in Appendix K. Tier Environmental's schedule of chemical laboratory testing is presented in Table 5.3. The testing was carried out by Element Materials Technology, a UKAS and MCerts (where appropriate for soils analysis) accredited laboratory.

Human Health and Preliminary Waste Classification Laboratory Testing

Based upon the conclusions of the preliminary risk assessment, Tier Environmental scheduled chemical laboratory testing on selected soil samples. The purpose of the testing was to:

- Determine the concentration and spatial distribution of potential contaminants of concern in the Made Ground;
- Determine the chemical composition and properties of the shallow natural soils;

Table 5.3 Schedule of Chemical Testing for Human Health Risk Assessment and Preliminary Waste Soils Assessment.

Laboratory analysis	Made Ground	Natural Soils (Till)
Tier Environmental soil suite*	6	5
Asbestos screen	6	NA
Speciated TPH / BTEX / MTBE	5	5
WAC	2	NA
BRE SD1	4	NA

*For definition of Tier Environmental analytical suites, please see Appendix K. NA - not applicable.

5.3. Geotechnical Testing

Geotechnical laboratory testing was scheduled by Tier Environmental on selected samples as presented in Table 5.4. The testing was performed by Murray Rix (UCAS accredited) Test certificates including details of appropriate testing standards are presented in Appendix D and discussed in Section 7, below.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 17 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 5.4 Geotechnical Laboratory Testing Schedule.

Test	Stratum type	Number of tests	Rationale
1. General			
Moisture content	Made Ground and Natural	10	a) Assist with the determination of consistency of soil with depth. b) Assess desiccation of soils. c) Suitability of materials for reuse within earthworks.
2. Classification			
Atterberg limit	Made Ground and Natural	6	a) Volume change potential. b) Plasticity assessment (comply with Eurocode 7 description) c) Consistency Index. d) Determine soil type (e.g., clay/silt). e) Use as an empirical guide to soil shear strength
2. Compaction			
2.5 kg rammer dry density/moisture content relationship test	Natural	2	Establish maximum dry density and optimum moisture content of materials to assess suitability for reuse within earthworks
3. Shear strength (effective stress)			
Consolidated undrained triaxial with porewater pressure measurement	Natural	6	Performed on cohesive samples, to quantify effective stress parameters for modelling long term behaviour of slopes and retaining structures.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	18 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

6. GROUND CONDITIONS

The following section provides a summary of the ground conditions encountered during the ground investigation including strata profile, obstructions and visual / olfactory evidence of contamination. Exploratory hole logs are provided in Appendix B.

Photographs of ground investigation works are provided in Appendix F.

6.1. Strata Profile

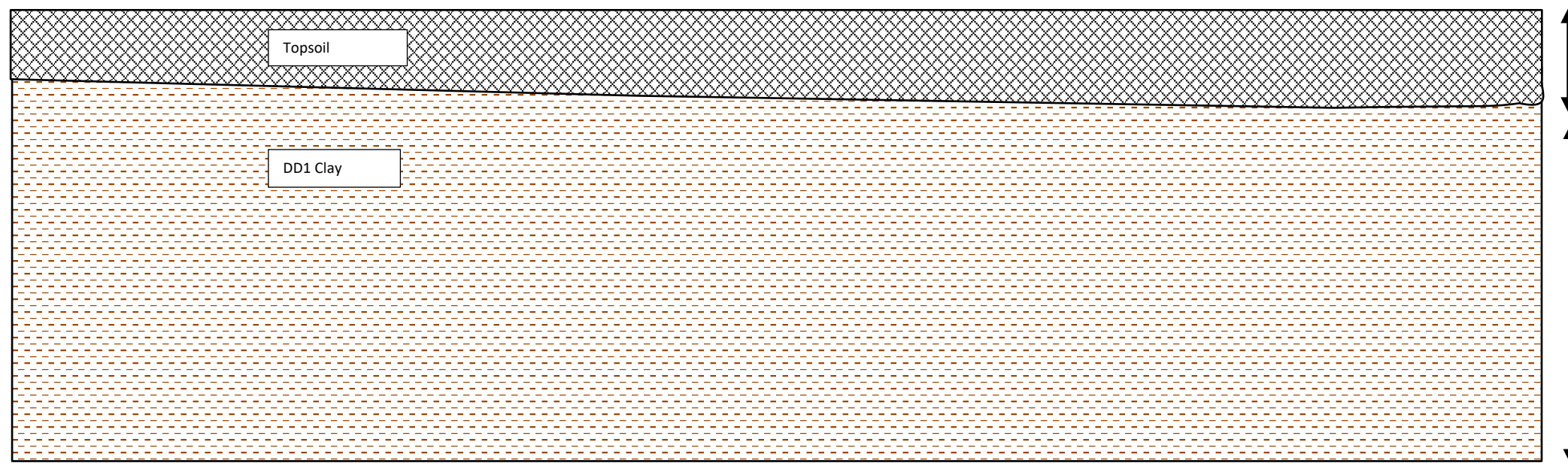
Figure 6.1 presented below provide a schematic summary of the ground conditions beneath the Site. The distinct populations of strata identified have been numbered and correspond with the more detailed descriptions below.



GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 19 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Figure 6.1 Schematic Drawing of Ground Conditions





GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 20 of 45
Engineer: Eve Rowland
Date: 28/05/2021

6.2. Strata Descriptions

Locations encountered	All exploratory hole locations
Depths encountered from top of stratum (range)	Ground level
Depths encountered to base of stratum (range)	0.23m bgl to 0.38m bgl
Thickness (range)	0.23m to 0.38m
Spatial location on site	Widespread across the Site reported to be thickest in the East
General description	Dark brown or brown, slightly sandy to sandy, slightly gravelly, clayey TOPSOIL, the gravel was fine to medium or fine to coarse, of mixed natural lithologies.

Drift Deposits – DD1

Cohesive Till - Clay	
Locations encountered	All exploratory hole locations
Depths encountered from top of stratum (range)	0.23m bgl to 0.38m bgl
Depths encountered to base of stratum (range)	10.00m bgl to 10.45m bgl
Thickness (range)	9.77m to 10.07m (base not encountered)
Spatial location on site	Widespread across the Site.
General description	Firm to stiff, locally very stiff, dark brown or brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse; gravel is fine to coarse of sandstone, coal and mudstone

6.3. Obstructions

No obstructions were encountered during drilling works.

6.4. Visual and Olfactory Evidence of Contamination

No visual or olfactory evidence of contamination was encountered during drilling works.

6.5. Groundwater Observations During Fieldwork

No groundwater was encountered in any exploratory hole location during drilling works.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 21 of 45
Engineer: Eve Rowland
Date: 28/05/2021

7. PRELIMINARY GEOTECHNICAL ASSESSMENT

7.1. Mining and Quarrying

The site is not considered to be at risk from shallow mining. Historical plans do not indicate any quarries, clay pits or other extractive industries in the vicinity of the site. Localised workings of shallow strata cannot be wholly discounted but given the historical use of the Site this is considered unlikely.

7.2. Determination of pH and Water-Soluble Sulphate

Representative samples of the soils encountered during the Tier Environmental ground investigation, were tested to determine their pH and concentrations of water-soluble sulphate (SO_4^{2-}). The results are presented in Appendix C and summarised in the Table 7.1 below. It is assumed that the Site is a natural ground site, and the groundwater is 'static' in accordance with BRE SD1.

The conclusion of the assessment is that a DS-1 and ACEC Class AC-1 is appropriate for buried concrete design purposes within the Topsoil present at Site and that a DS-2 and ACEC Class AC-2 is appropriate for buried concrete design purposes within the natural Till deposits.

Whilst no evidence of gross hydrocarbon contamination has been observed at the Site, it is a concrete specialist should review the TPH results and ground conditions summary within this report to ensure appropriate concrete design against retardation / degradation due to hydrocarbons.

Table 7.1 Results of Soil pH Testing and Water-Soluble Sulphate Determination.

Exploratory Hole Location	Depth (m bgl)	pH	Water-soluble sulphate (mg/l)	Design sulphate class	ACEC sulphate class
TOPSOIL					
HDP1	0.05	7.14	34.4	DS-1	AC-1
HDP2	0.10	6.49	21.3		
HDP4	0.15	5.97	26.4		
WS1	0.20	7.75	17.1		
WS3	0.20	7.11	11.4		
WS6	0.10	8.76	79.7		
DRIFT DEPOSITS – TILL					
CP1	0.80	8.07	97.5	DS-2	AC-2
CP2	1.40	8.76	170.9		
CP3	2.90	8.13	1334.3		
HDP6	0.60	8.36	1374.9		
WS4	1.80	8.65	166.2		

ACEC - Aggressive Chemical Environment for Concrete (see BRE, 2005).

7.3. Geotechnical Parameters

The data obtained during the Ground Investigation has been assessed for the recorded soil types in order to provide characteristic values in order to aid the final foundation design Table 7.2 below shows soil classification results for cohesive soils.



**GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM**

Project No : TE1456GIR1.0
Page No : 22 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 7.3 Soil Classification Test Results for Cohesive Till.

Exploratory hole	Depth (m bgl)	Stratum	MC (%)	LL (%)	PL (%)	PI (%) (Modified)	Volume Change Potential
CP1	0.40	TOPSOIL	27	40	20	18.4	Low
CP2	5.00	TILL	20	44	21	23	Medium
CP2	1.50	TILL	20	43	20	23	Medium
WS3	2.00	TILL	20	45	20	25	Medium
WS6	4.00	TILL	21	45	19	25	Medium
WS3	1.20	TILL	18	45	19	26	Medium

ND - Not determined; MC - Moisture content, LL - Liquid limit, PL - Plastic limit, PI - Plasticity index.

Consistency index (CI) is obtained from Atterberg limits and is allowed by Eurocode 7 as a scientific means of determining consistency of clays over and above an engineer merely sticking a thumb in (CI = $1 - (mc - (PL/PI))$ using unmodified PI).



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 23 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Soil Classification

Cohesive Soils

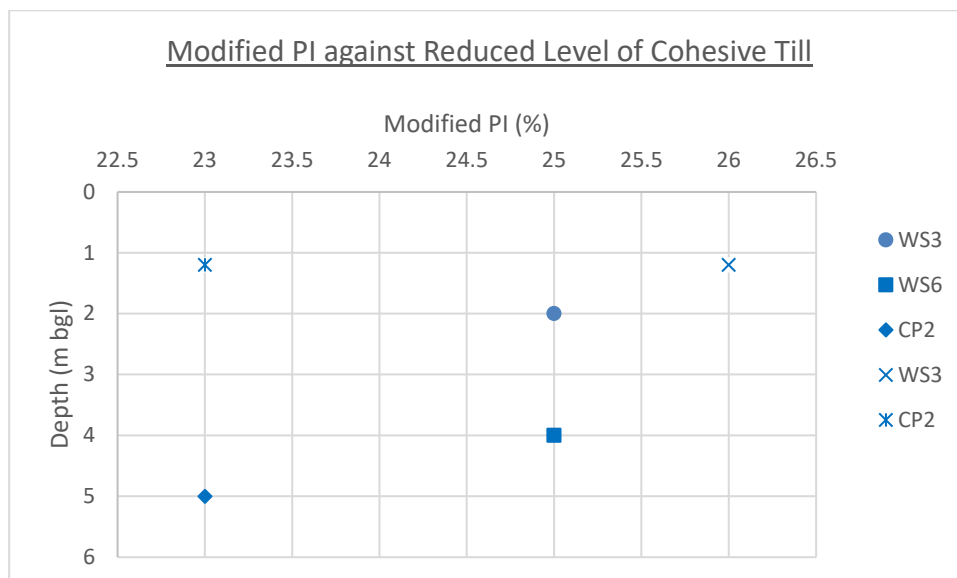
Moisture content and Atterberg Limit testing was undertaken on samples from cohesive superficial material at the site. A summary of the results is shown in Table 7.4 below.

Table 7.4 Summary of Natural Moisture Content and Atterberg Limits

Parameter	No. Tests	Minimum	Maximum	Average
Natural MC %	11	14	21	18.81
Plastic Limit %	5	19	21	19.8
Liquid Limit %	5	43	45	44.4
Plasticity Index	5	23	26	24.6

5 No. Atterberg Limit Tests were performed on samples of identified cohesive soil. All samples returned results which confirm that the material is clay.

Figure 7.1 Plot of Modified Plasticity Index against reduced level



Shear Strength Parameters

A total of 6 No. total stress undrained triaxial tests were performed on the natural clay strata encountered within the exploratory holes. Single stage tests were performed and these yielded values of undrained shear strength (C_u). A summary of the test results obtained for the natural clay strata is given in Table 7.5 below.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 24 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 7.5 Summary of undrained shear strength values for natural clay strata

Borehole ID	Depth (m bgl)	Material Type	Shear Strength Cu (kPa)
CP1	1.70	Stiff, brown, silty sandy Clay	178
CP2	1.50	Stiff, brown, silty sandy Clay	195
CP2	2.10	Stiff, brown, silty sandy Clay	313
CP3	5.1	Stiff, brown, silty sandy Clay	141
WS1	2.00	Stiff, brown, silty sandy Clay	403
WS2	2.00	Stiff, brown, silty sandy Clay	1353

The test results show a reasonable variation with no clear increase with depth and from the triaxial test data, a moderately conservative undrained shear strength of 100 kPa at 1.50m bgl, increasing to 150kPa at 3.00m bgl is assessed for the natural clay Till stratum.

Standard Penetration Tests (SPT) were carried out in all of the boreholes. The undrained shear strength of the natural clay strata tested has been estimated using the relationship developed by Stroud, where:

$$C_u = f_1 \times \text{SPT N60 value}$$

The value of f_1 is dependent on the Plasticity Index (Ip). By using the moderately conservative Plasticity Index of 17%, a characteristic value of $f_1 = 6.5$ has been derived.

Results from 42 No. SPT N values in the natural clay Till stratum suggest that the majority of the material is the high to very high strength category with shear strengths varying from 50kPa to 300kPa. All of the shear strengths calculated from SPT N values are shown in the figure below, in which they are plotted against reduced level. The test results show a reasonable variation but also an increase with depth.

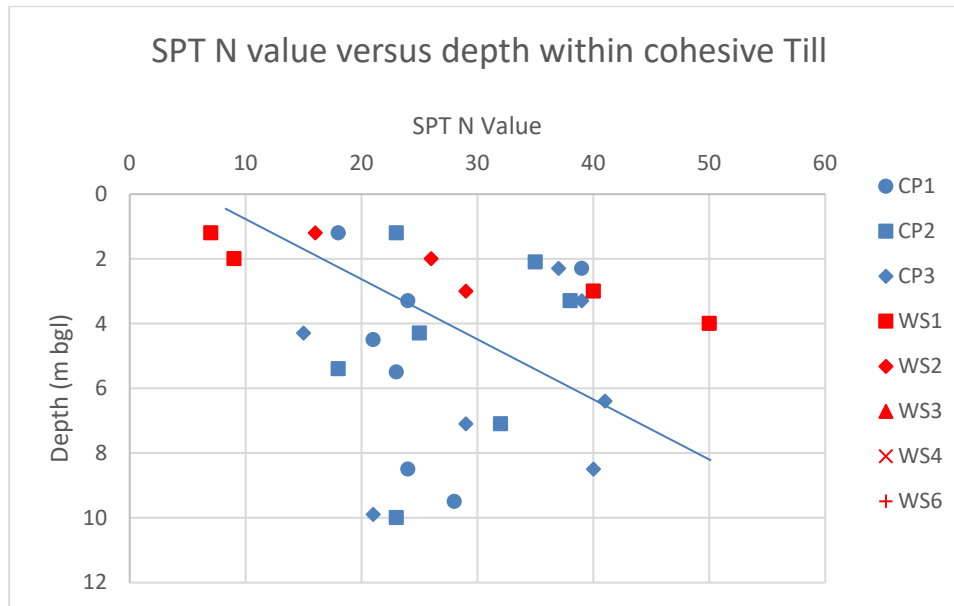
From the standard penetration test data, a moderately conservative undrained shear strength of 75kPa at 1.00m bgl, increasing to 150 kPa at 3.00m bgl is assessed for the natural clay Till stratum.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 25 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Figure 7.2 SPT N value vs reduced depth



Both show some variation but also an increase with depth and this broadly agrees with the variation in moisture content for this stratum. Based on these results a moderately conservative design undrained shear strength 75kPa at 1.00m bgl, increasing to 200 kPa at 3.00m bgl is assessed for the natural clay Till stratum.

Foundation Recommendations

The proposed development at the Site consists of a single storey warehouse unit with associated office space, roadways, parking and soft landscaping. Ground conditions encountered are consistent across the whole Site, with topsoil at surface underlain by firm to very stiff clay to a maximum depth of 10.45m bgl (base not encountered). No groundwater ingress was encountered at Site during drilling works. Geotechnical testing at the Site shows the clay to be high to very high strength.

The clay Till stratum is suitable for founding on, local deepening may be required in areas of former ponds. The preferred, most economic foundation solution is likely to be shallow spread foundations (pads or strip) within the Till. The following safe bearing resistances are recommended for shallow spread foundations:

- Firm undisturbed clay Till: 80kPa
- Stiff undisturbed clay Till: 130kPa

7.4. Floors

Atterberg tests undertaken within the shallow soils suggest that these soils have a 23% to 26% plasticity and low to medium volume change potential. Based on the results of laboratory and in situ geotechnical tests, field observations and the high to very high strength of the clay soils underneath the area of the proposed facility, it is proposed that floor slabs are ground bearing, but that the Topsoil/any potentially unidentified Made Ground beneath



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	26 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

the floors is removed in order to prevent excessive cracking or differential settlements. If a ground bearing floor slab is incorporated into the design, a capping layer should be included which would then proof rolled to the desired specification.

7.5. Groundworks, Excavation Stability and Groundwater Dewatering

In our opinion, there should be no particular difficulties in excavating the strata indicated in the boreholes utilising an appropriate and suitably sized mechanical excavator. Excavations into existing Made Ground and the underlying natural soils should be assumed to be unstable. No man entry into unsupported excavations should be allowed without an appropriate risk assessment. Reference to CIRIA report 097 (1983) should be made to establish suitable means of support or battering of excavation sides.

It is recommended that all excavations to greater than 1.20 metres depth, or for shallower excavations where groundwater is encountered above this level are closely supported, especially where man entry is required. Alternatively, where space permits, the excavations might be battered back to an appropriate angle. No Standing groundwater was encountered in the boreholes / trial pits. Should groundwater seepages occur, and water accumulate in shallow excavations it should be able to be removed by pumping from a filtered sump. However, groundwater control by more robust means, such as well pointing, may be required locally.

It should be noted that should deep basements be constructed as part of the development then we would recommend that the standpipes are monitored for groundwater levels for an extended period of time and take into consideration seasonal variations and periods of very wet weather to measure the fluctuation of the standing water levels. It should be noted that groundwater inflows and levels are likely to be subject to seasonal and climatic variations.

Great care will need to be taken if reducing groundwater levels to ensure that adjoining nearby buildings, structures and services are not affected.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 27 of 45
Engineer: Eve Rowland
Date: 28/05/2021

8. HUMAN HEALTH RISK ASSESSMENT

Tier environmental tested selected soil samples for a number of determinands to conduct a human health risk assessment of the Site.

Results of chemical analysis are presented in full in Appendix C.

8.1. Data Interpretation Approach

The analytical data obtained were reviewed for completeness and consistency. The data for each sample type was then compiled, screened against the Generic Assessment Criteria (GACs) for a commercial/industrial land use and those potential contaminants of concern which were found to exceed the GACs were then subjected to detailed analysis as described below.

Previously, it was possible for results from soil (and leachate) samples to be subject to statistical assessment in accordance with a 2008 guidance document (CL:AIRE / CIEH Guidance on Comparing Soil Contamination Data with a Critical Concentration). This guidance has now been withdrawn and replaced with the following document:

- Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration (CL:AIRE 2020)

The purpose behind statistical assessment is ultimately to determine whether concentrations of contaminants are at levels that present potential risk to the future site users (and the wider environment if the statistical assessment is conducted on leachate test results).

The new guidance places even greater emphasis and reliance on the desk study being carried out first, appropriately detailed sampling strategies, collection and testing of samples for contamination and use of appropriate screening criteria.

The guidance requires an increased number of criteria to be met before a robust statistical assessment can be conducted and introduces the principal of the Central Limit Theorem (CLT); a key tool of statistics that is used in the comparison of confidence intervals with the critical concentration. A common 'rule of thumb' is that the CLT will apply provided your sample size is between 20 and 50.

On this basis, Tier Environmental considers that statistical assessment in accordance with the CL:AIRE 2020 guidance may not be applied in this instance given that the number of samples obtained is below 20 No. for any given identified soil population.

Due consideration of the ground conditions, distinct identifiable populations of soil and proposed development layout has been undertaken and, where appropriate, laboratory results associated with discrete populations or 'hotspots' have been assessed separately.

8.2. Selection of Generic Assessment Criteria (GAC)

In short, for the majority of the contaminants of concern, LQM/CIEH Sutable 4 Use Levels (S4ULs) published recently in 2015 have been adopted as GACs for a commercial/industrial land use; however, further details on the hierarchal approach for the selection of the GACs used as screening criteria for this assessment is provided in Appendix I.

These values are considered as appropriate screening criteria as they incorporate updated assumption exposures derived for the production of C4SLs but within the context of deriving screening criteria above which assessment of the risks or remedial action may be needed (i.e. within the context of the planning regime rather than Part 2A context for which C4SLs were derived).



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 28 of 45
Engineer: Eve Rowland
Date: 28/05/2021

For those potential contaminants of concern where the selected GAC is dependent on Soil Organic Matter content (SOM), an assumed SOM of 1% has been selected based on the reported Total Organic Carbon (TOC) concentrations (which have been converted to SOM by dividing by a conversion factor of 0.58). It should be noted; however, that for any soil samples where the TOC may be artificially driven by the presence of petroleum hydrocarbons, that these TOC results have been removed from the data set when determining an appropriate characteristic SOM. For this purpose, Tier Environmental have notionally considered that any TOC results from soil samples where the measured total TPH concentration exceeds 500mg/kg should be removed.

8.3. Human Health Risk Assessment

No measured concentrations of potential contaminants of concern have been reported in excess of the respective GACs protective of human health for a commercial/industrial land use.

Asbestos

During the fieldwork no suspected ACMs were identified.

Of the 6 No. of Made Ground samples submitted for asbestos screening, none were reported to contain asbestos.

Asbestos can be present in soil as fragments of bulk Asbestos Containing Materials (ACMs) (e.g. asbestos cement sheeting) and also as discrete asbestos fibres within the soil matrix. This investigation has carried out assessments to determine whether both bulk fragments and / or fibres are present in the soil at the site. The asbestos assessment commenced on site with inspection of the Made Ground by our suitably qualified supervising engineer for the presence of bulk ACMs.

8.4. Utilities

It is recommended that the results of the chemical testing and details of the proposed remedial works are provided to the appropriate utility companies to determine the necessity for service protection.

8.5. Construction and Maintenance Workers

Contamination may pose a short-term (acute) or long-term (chronic) risk to workers during construction and maintenance. The potential risks must be specifically assessed as part of the health and safety evaluation for the works to be performed in accordance with prevailing legislation. Site practices must conform to the specific legislative requirements and follow appropriate guidance (e.g., HSE, 1991; CIRIA, 1996).

On the basis of the results obtained, the following potential exposure risks to construction and maintenance workers have been highlighted:

- Asbestos **has not** been reported during the ground investigation works; however, in the event that previously unidentified asbestos is identified during future earthworks / construction works at concentrations above 0.001% w/w (i.e. above 'trace' levels), the Control of Asbestos Regulations 2012 should be adhered to. A summary of complying with CAR: risk assessments, licensing and training is provided in Appendix L is provided for reference.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	29 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

9. GROUND GAS RISK ASSESSMENT

9.1. Introduction

The ground gas risk assessment has been undertaken in accordance with the following guidance:

- BS 8485:2015+A1:2019;
- CIRIA C665, 2007;
- Guidance on Evaluation of Development Proposals on Sites Where Methane and Carbon Dioxide Are Present, NHBC, 2007;
- A Pragmatic Approach to Ground Gas Risk Assessment RB17. CL:AIRE, 2012; and,
- Ground Gas Monitoring and 'Worst-Case' Conditions TB17, CL:AIRE, 2018

The ground gas risk assessment has been conducted with full consideration of the viable sources, pathways and receptors included within the Preliminary Conceptual Site Model presented in Section 4.

Ground gas monitoring was conducted in conjunction with groundwater monitoring (and sampling); however, it should be noted during the gas monitoring was conducted first, prior to any groundwater monitoring / sampling works. The monitoring well locations and construction were designed with due consideration of the proposed development layout and preliminary conceptual site model. Further information pertaining to monitoring wells is provided in Table 5.2.

9.2. Ground Gas Monitoring Results

The three visits of ground gas monitoring results are presented in Appendix E and summarised below:



GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 30 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 9.1 Ground Gas Monitoring Results Summary

Strata targeted by response zone	Monitoring well reference	Maximum peak CO ₂ (%v/v)	Maximum steady state CO ₂ (%v/v)	Maximum peak CH ₄ (%v/v)	Maximum steady state CH ₄ (%v/v)	Lowest O ₂ recorded (%v/v)	Maximum peak gas flow rate (l/h)	Maximum steady state gas flow (l/h)
Till	CP01	1.2	1.2	0.1	0.1	15.6	15.6	ND
Till	CP02	1.3	1.3	0.1	0.1	18.1	0.2	0.2
Till	CP03	0.7	0.7	ND	ND	18.0	0.1	ND
Till	WS03	0.8	0.8	0.1	0.1	18.0	12.0	ND
Till	WS06	1.2	1.2	0.1	0.1	17.5	17.9	ND

Bold = maximum value reported across all visits.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 31 of 45
Engineer: Eve Rowland
Date: 28/05/2021

9.3. Ground Gas Risk Assessment

Table 9.2 and Table 9.3 demonstrate how, in accordance with CIRIA C665, the periods and frequency of monitoring have been selected for the Site.

Table 9.2 From Table 5.5a CIRIA C665 - Typical/idealised periods of monitoring (after Wilson et al, 2005)

		Generation Potential of the Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of development	Low (commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (flats)	2 months	3 months	6 months	12 months	24 months
	High (residential with gardens)	3 months ¹	6 months	6 months	12 months ¹	24 months

Notes:

1 NHBC guidance also recommends this period of monitoring (Boyle and Witherington, 2007).

2 There is no industry consent over "high", "medium" or "low" generation potential of source.

Table 9.3 From Table 5.5b CIRIA C665 - Typical/idealised frequency of monitoring (after Wilson et al, 2005)

		Generation Potential of the Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of development	Low (commercial)	4	6	6	12	12
	Moderate (flats)	6	6	9	12	24
	High (residential with gardens)	6 ¹	9	12	24 ¹	24

Notes:

1 NHBC guidance also recommends this period of monitoring (Boyle and Witherington, 2007).

2 There is no industry consent over "high", "medium" or "low" generation potential of source.

To date three ground gas monitoring visits have been completed. The total atmospheric pressure range of the ground gas monitoring data included in this report was between 1001 mbar and 1027 mbar. This range covers high (>1015 mbar) to medium (1000 – 1015 mbar) atmospheric pressures. Monitoring events included periods of falling, stable and rising pressure trends. Atmospheric pressure graphs from Hawarden Airport (the closest weather station to the Site) are presented below highlighting the pressure trends during the 2 No. gas visits conducted to date.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 32 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Consideration of Groundwater Effects

An assessment has been made to determine whether groundwater levels beneath the Site lie at a shallow depth at, or above, the plain section of the monitoring well. In those instances where shallow groundwater is located within the plain section of the monitoring well pipe this can result in 'groundwater pumping' where the measured peak (and in some cases steady) flow rates reported at these monitoring well locations are significantly (and artificially) influenced by the pressures formed in the void above the groundwater in the plain section of the pipe, as opposed to being truly representative of the ground gas flow rates. In such instances, this scenario can create 'artificial' negative and /or relatively high peak positive readings depending on whether the groundwater levels have increased or decreased in between monitoring events or since installation of the monitoring wells.

The results of the ground gas monitoring within this report have indicates where groundwater pumping is likely to have influenced the measured gas flow rated such that they may be reasonably discounted from the Gas Screening Criteria (GSV) calculation.

- On the third gas monitoring visit, CP01, WS03 and WS06 recorded abnormally high peak flow rates, which swiftly dropped to no detected steady flow rates. CP02 and CP03 had also flooded due to the high groundwater levels.
- There were no significant concentrations of ground gases observed within the 3 No. wells with the high peak flow rates. This supports the interpretation that groundwater pumping is occurring within the well pipes.
- Based on the previous gas monitoring visits conducted, the groundwater levels on the third visit have risen significantly.

Therefore, as groundwater pumping is likely causing abnormally high and unrepresentative peak flow rates during the third visit, these flow rates have not been used in the GSV calculation, with the next highest representative peak flow value used.

The results of the ground gas monitoring have been assessed in accordance with the criteria specified for this Site, which were derived as described in Appendix J.

Initial 'Worst-Case' GSV Calculation – Carbon Dioxide and Methane

An initial conservative assessment has been made by calculating a 'worst-case' Gas Screening Value (GSV) for the Site by using:

- the maximum reported methane or carbon dioxide concentration (whichever is highest) from any monitoring well and during any ground gas monitoring visit; and,
- the remaining maximum peak positive flow rate (after any negative flow rates or 'artificially' high flow rates have been discounted as described above) from any monitoring well and during any ground gas monitoring visit.

Table 9.4 Initial Worst-Case GSV Calculation

Ground Gas	Maximum Reported Peak Concentration (% v/v)				
		Selected Concentration used in GSV Calculation (% v/v)		Maximum Appropriately Selected Gas Flow Rate (l/hr)	'Worst case' GSV (l/hr)
Methane (CH ₄)	0.1	1.3	X	0.3	= 0.0039
Carbon dioxide (CO ₂)	1.3				



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 33 of 45
Engineer: Eve Rowland
Date: 28/05/2021

CIRIA C665 provides two separate methods to 'characterise' a site that firstly requires the assessor to distinguish between two fundamental development 'situations':

- **Situation A** - Any development other than Situation B (e.g. factories, shops, commercial, warehouses, schools, cinemas, sports centres, stadiums, high rise housing, housing with basements, etc) for which the **Modified Wilson and Card 'Characteristic Situation' classification system** is applied; and,
- **Situation B** - Low rise building with minimum ventilated under floor void (min 150 mm) for which the **NHBC Traffic light classification system** is applied

In this instance, as the Site is due to be developed as commercial warehouse unit with associated office spaces, it shall be regarded as a 'Situation A' scenario for the purposes of the ground gas risk assessment.

Table 9.4 demonstrates that the Site is placed in a Characteristic Situation 1– VERY LOW RISK / scenario on the basis of the 'worst case' GSV alone.

CIRIA C665 indicates that in the event that the reported methane concentrations are 'typically' >1% v/v and/or the reported carbon dioxide concentrations are 'typically' >5% then consideration should be made to increase the determination of the Site to a Characteristic Situation 2 – Low Risk scenario.

In this instance, as no maximum peak or steady methane or carbon dioxide concentrations have been reported in excess of 1% v/v or 5% v/v respectively, the Site can be reasonably classified as a Characteristic Situation 1 – Very Low Risk scenario for which no basic ground gas protection measures are required.

It is recommended that CS2 is adopted until completion of the ground gas monitoring, the final results will be included in an updated report.

Carbon Monoxide and Hydrogen Sulphide

There is no current UK risk assessment guidance available for carbon monoxide and hydrogen sulphide derived from ground gases.

No measured concentrations of carbon monoxide or hydrogen sulphide have been reported in excess of the instrument's detection limit. As such, there is no evidence to suggest that the Site presents a potential risk to future land users from either carbon monoxide or hydrogen sulphide.

9.4. Radon Gas

Data from UKRadon.org shows the majority of the Site lies in an area where less than 1% of the properties lie above the action level, therefore no radon protection measures are required. However, the north western corner of the Site falls into an area where 1% - 3% of properties lie above the action level. This is most likely the result of the bedrock Salop Formation, which is shown on BGS records to be overlain by approx. 30-40m of superficial Till, meaning radon is unlikely to affect this area of Site.

Review of the third party report obtained by Tier "Geo-Environmental Desk Study of Plot 3A, Bryn Lane, Wrexham Industrial Estate, Wrexham" references 'The Building Research Establishment report "Radon: Guidance on Protective Measures for New Dwellings" BR211, 2007 edition)' and shows that:

"No protection is needed against radon gas and that further geological assessment is not required. The health Protection Agency publication 'Indicative Atlas of Radon in England and Wales' (Ref: HPA-RPD-033, November 2007) indicates that less than 1% of properties are above the radon gas action level."



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	34 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

However, although unlikely, any proposed buildings with basement levels in the north-western corner of the Site which falls into the 1% to 3% action level, should have a Visqueen (or equivalent) barrier membrane installed.



**GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM**

Project No : TE1456GIR1.0
Page No : 35 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 9.5 Ground Gas Protection Measure Requirements

Ground Gas Characteristic Situation	Vapour Membrane Required?	Building Type (in accordance with BS8485)	Gas Protection Score by Characteristic Situation and Type of Building	Proposed Ground Gas Protection Measures																																											
Characteristic Situation 1 – Very Low Risk Scenario <i>(subject to change on completion of the ground gas monitoring).</i>	No	The proposed building type is considered to be Type C for the office spaces and Type D for the warehouse spaces in accordance with the BS8485 description: Type C building: commercial building with central building management control of any alterations to the building or its uses and central building management control of the maintenance of the building, including the gas protection measures. Single occupancy of ground floor and basement areas. Small to large size rooms with active ventilation or good passive ventilation of all rooms and other internal spaces throughout ground floor and basement areas. Probably civil engineering construction. Examples include offices, some retail premises, and parts of some public buildings (such as schools, hospitals, leisure centres and parts of hotels). Type D building: industrial style building having large volume internal space(s) that are well ventilated. Corporate ownership with building management controls on alterations to the ground floor and basement areas of the building and on maintenance of ground gas protective measures. Probably civil engineering construction. Examples are retail park sales buildings, factory shop floor areas, warehouses. (Small rooms within these style buildings should be separately categorized as Type B or Type C).	The red ellipse below has been added to show the appropriate point score, based on the Characteristic Situation that has been determined for the Site and Building type in accordance with BS8485. From Table 4 in BS 8485:2015+A1:2019 – Gas Protection Score by CS and Type of Building <table border="1"> <thead> <tr> <th rowspan="3">CS</th><th colspan="4">Minimum gas protection score (points)</th></tr> <tr> <th colspan="2">High risk</th><th>Medium risk</th><th>Low risk</th></tr> <tr> <th>Type A Building</th><th>Type B Building</th><th>Type C Building</th><th>Type D Building</th></tr> </thead> <tbody> <tr> <td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr> <td>2</td><td>3.5</td><td>3.5</td><td>2.5</td><td>1.5</td></tr> <tr> <td>3</td><td>4.5</td><td>4</td><td>3</td><td>2.5</td></tr> <tr> <td>4</td><td>6.5^{A)}</td><td>5.5^{A)}</td><td>4.5</td><td>3.5</td></tr> <tr> <td>5</td><td>-^{B)}</td><td>6^{A)}</td><td>5.5</td><td>4.5</td></tr> <tr> <td>6</td><td>-^{B)}</td><td>-^{B)}</td><td>-^{B)}</td><td>6</td></tr> </tbody> </table> A) Residential buildings should not be built on CS4 or higher sites unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations. B) The gas hazard is too high for this empirical method to be used to define the gas protection measures.	CS	Minimum gas protection score (points)				High risk		Medium risk	Low risk	Type A Building	Type B Building	Type C Building	Type D Building	1	0	0	0	0	2	3.5	3.5	2.5	1.5	3	4.5	4	3	2.5	4	6.5 ^{A)}	5.5 ^{A)}	4.5	3.5	5	- ^{B)}	6 ^{A)}	5.5	4.5	6	- ^{B)}	- ^{B)}	- ^{B)}	6	Selection of appropriate ground gas protection measures has been conducted in accordance with Section 7.2 of BS8485 that states gas protection measures are not required for the development. <i>(subject to change on completion of the ground gas monitoring).</i>
CS	Minimum gas protection score (points)																																														
	High risk		Medium risk		Low risk																																										
	Type A Building	Type B Building	Type C Building	Type D Building																																											
1	0	0	0	0																																											
2	3.5	3.5	2.5	1.5																																											
3	4.5	4	3	2.5																																											
4	6.5 ^{A)}	5.5 ^{A)}	4.5	3.5																																											
5	- ^{B)}	6 ^{A)}	5.5	4.5																																											
6	- ^{B)}	- ^{B)}	- ^{B)}	6																																											



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	36 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

10. REVISED CONCEPTUAL MODEL AND GENERIC QUANTITATIVE RISK ASSESSMENT OF POLLUTANT LINKAGES

The preliminary combined conceptual site model and conceptual exposure model, developed from the desk study information and presented in Section 4, has been revised in light of the ground investigation and the chemical analysis results presented above in Table 10.1, below.

A revised qualitative risk assessment has also been made of the likelihood of the linkage operating and its potential significance in accordance with CIRIA C552.



GROUND INVESTIGATION REPORT FOR NET
WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 37 of 45
Engineer: Eve Rowland
Date: 28/05/2021

Table 10.1 Revised Assessment of Pollutant Linkages.

Justification / Comments	Source	Potential Contaminants of Concern	Pathway	Receptor	Consequence	Probability	Qualitative Risk Assessment
- Topsoil was encountered across the whole Site in all exploratory hole locations, underlain by firm to stiff locally very stiff clay. - No Groundwater ingress was encountered during ground investigation works. Groundwater has been encountered in CP01, CP02, and CP03 on monitoring visit 2 and in all wells on visit 3. - Topsoil and Clay samples were analysed for metals, metalloids, TPH, and asbestos. No measured concentrations above the respective GACs for each determinand were identified. - Based on the 3 No. ground gas monitoring visits conducted to date, the Site is characterised as a Characteristic Situation 1 - Very Low Risk Scenario meaning no gas protection measures are required. This will be updated upon completion of the gas monitoring. CS2 to be adopted until completion of ground gas monitoring	Anticipated localised Made Ground contamination associated with Made Ground (general, at the Site entrance gates and potential infilled pond deposits) present on Site.	Metals	Direct contact, ingestion and inhalation of dust	Future Site end users	Medium	Unlikely	Low Risk
		PAHs	Leaching and migration via groundwater	Ground/Site workers	Medium	Unlikely	
		Phenols	Lateral and vertical migration of mobile contaminants	Adjacent properties	Medium	Unlikely	
		pH		Underlying Aquifers	Medium	Unlikely	
	Potential for asbestos contamination within the Made Ground deposits of former backfilled ponds (localised)	Asbestos	Direct contact, ingestion and inhalation of dust	Future Site end users	Medium	Unlikely	Low Risk
			Dust migration	Ground/Site workers	Medium	Unlikely	
	Potential for ground gas generated from assumed backfilled Ponds or potential Made Ground on Site.	Hazardous Ground Gas	Vapour inhalation	Future Site end users	Severe	Unlikely	Moderate / low risk
			Lateral and vertical migration of mobile contaminants	Ground/Site workers			
				Proposed buildings on Site			

For definition of the terms used in the qualitative risk assessment, please see Appendix H.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 38 of 45
Engineer: Eve Rowland
Date: 28/05/2021

11. PRELIMINARY WASTE SOILS CLASSIFICATION AND WASTE DISPOSAL ROUTE DETERMINATION

If the Site is to be redeveloped and materials are disposed off Site, the material exported from the Site to Landfill should be hauled by a register waste character in accordance with Duty of Care Regulations 1991 and the Hazardous Waste Regulations 2005.

It will be necessary to register the Site in advance of the intended reclamation works with the Environment Agency before disposal to landfill can take place. There will be requirement for the waste producer to provide appropriate Waste Acceptance Criteria (WAC) testing of the Soils for disposal to ensure that the soils are appropriately classified and that the landfill is licensed to receive such soils. A consignment note shall be completed, signed and retained by all parties involved. The consignment note shall state the volume of waste, a physical description of the material and statement of its chemical composition. The waste consignment notes shall be kept by the contractor for a period of at least two years.

Tier Environmental have assessed the chemical results in terms of basic characterisation of soils for waste. This provides a preliminary assessment of whether a material is potentially inert/non-hazardous or hazardous waste, with the final outcome being determined by WAC testing.

Basic waste characterisation has demonstrated that all 11 No. of the samples of the material tested have been classified as non-hazardous waste:

- CP01 at 0.80m bgl.
- CP02 at 1.40m bgl.
- CP03 at 2.90m bgl.
- HDP01 at 0.05m bgl.
- HDP02 at 0.10m bgl.
- HDP04 at 0.15m bgl.
- HDP06 at 0.60m bgl.
- WS01 at 0.20m bgl.
- WS03 at 0.20m bgl.
- WS04 at 1.80m bgl.
- WS06 at 0.10m bgl.

Based on Waste Acceptance Criteria testing, all samples are suitable for disposal at an inert waste landfill. Natural soils are likely to be suitable for disposal to an inert waste landfill.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 39 of 45
Engineer: Eve Rowland
Date: 28/05/2021

12.CONCLUSIONS AND RECOMMENDATIONS

12.1. Conclusions

- No exceedances above the relevant GACs were identified in respect to human health for a commercial site end use for the soils tested on site.
- Based on the 2 No. ground gas visits conducted to date, the site is considered at Characteristic situation 1 – Very Low Risk Scenario with no gas protection measures required. This is subject to change and will be updated upon completion of the gas monitoring. Adopt CS2 until completion of the ground gas monitoring.
- Shallow strips and pad foundations are deemed suitable for this site subject to the loading of the structure, localised deepening may be required for areas of former ponds.
- Data from UKRadon.org shows the majority of the Site lies in an area where less than 1% of the properties lie above the action level, therefore no radon protection measures are required. However, the north western corner of the Site falls into an area where 1% - 3% of properties lie above the action level. This is most likely the result of the bedrock Salop Formation, which is shown on BGS records to be overlain by approx. 30-40m of superficial Till, meaning radon is unlikely to affect this area of Site.
- The conclusion of the pH and Water-Soluble Sulphate assessment is that a DS-1 and ACEC Class AC-1 is appropriate for buried concrete design purposes within the Topsoil present at Site and that a DS-2 and ACEC Class AC-2 is appropriate for buried concrete design purposes within the natural Till deposits.

12.2. Recommendations

- Any proposed buildings with basement levels in the north-western corner of the Site which falls into the 1% to 3% action level, should have a Visqueen (or equivalent) barrier membrane installed.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	40 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

13.REGULATORY APPROVALS

The conclusions and recommendations presented above are considered reasonable based on the findings of the site investigation. However, these cannot be guaranteed to gain regulatory approval and, therefore, the report should be passed to the appropriate regulatory authorities and/or other organisations for their comment and approval prior to undertaking any works on site.

It is recommended that conditions placed on any planning permission are discharged prior to commencement of site works.



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No :	TE1456GIR1.0
Page No :	41 of 45
Engineer:	Eve Rowland
Date:	28/05/2021

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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 42 of 45
Engineer: Eve Rowland
Date: 28/05/2021

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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 43 of 45
Engineer: Eve Rowland
Date: 28/05/2021

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GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 44 of 45
Engineer: Eve Rowland
Date: 28/05/2021

15.GLOSSARY OF TERMS

ACEC	Aggressive Chemical Environment for Concrete (classification)
aOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
Designated location	Site (and the ecosystem on that site) protected under national or international legislation. A potential ecological receptor to be considered as part of the assessment of land contamination. Example designated locations include SSSIs (q.v.), SACs (q.v.), national nature reserves, Ramsar sites and bird special protection areas.
DQA	Data Quality Assessment
DQO	Data Quality Objective
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
K _{ow}	Octanol-water partition coefficient
LEL	Lower Explosive Limit
LL	Liquid Limit
LoD	Limit of Detection (analytical)
LoQ	Limit of Quantification (analytical)
Mean Value Test	Statistical test (described in the CIEH Guidance) to estimate the mean value of a normally distributed population of data at a given level of confidence. Normally for contaminated land assessment, the 95th percentile (referred to as the 95%UCL or US95) is applied as a reasonable but conservative estimate of the mean concentration for comparison with the relevant assessment criteria.
Maximum Value Test	Statistical test (described in the CIEH Guidance) to identify whether an elevated concentration within a normally distributed data set forms part of the underlying population from which it has been sampled or whether it is an outlier (such as a localised area of contamination) that merits further consideration.
MC	Moisture Content
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
PI	Plasticity Index
PID	Photoionisation Detector
PL	Plastic Limit
ppm	Parts per million
ppmv	Parts per million by volume
QA	Quality Assurance
QC	Quality Control
SAC	Special Area of Conservation
SOM	Soil Organic Matter



GROUND INVESTIGATION REPORT FOR NET WORLD SPORTS, WREXHAM

Project No : TE1456GIR1.0
Page No : 45 of 45
Engineer: Eve Rowland
Date: 28/05/2021

SPT	Standard Penetration Test
SPZ	Source Protection Zone
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compound
TEF	Toxicity Equivalent Factor
TPH	Total Petroleum Hydrocarbons
TWA	Time Weighted Average
US95	95 th percentile estimate of the true mean value of a data population (also known as 95%UCL).
VOC	Volatile Organic Compound

APPENDIX A - DRAWINGS



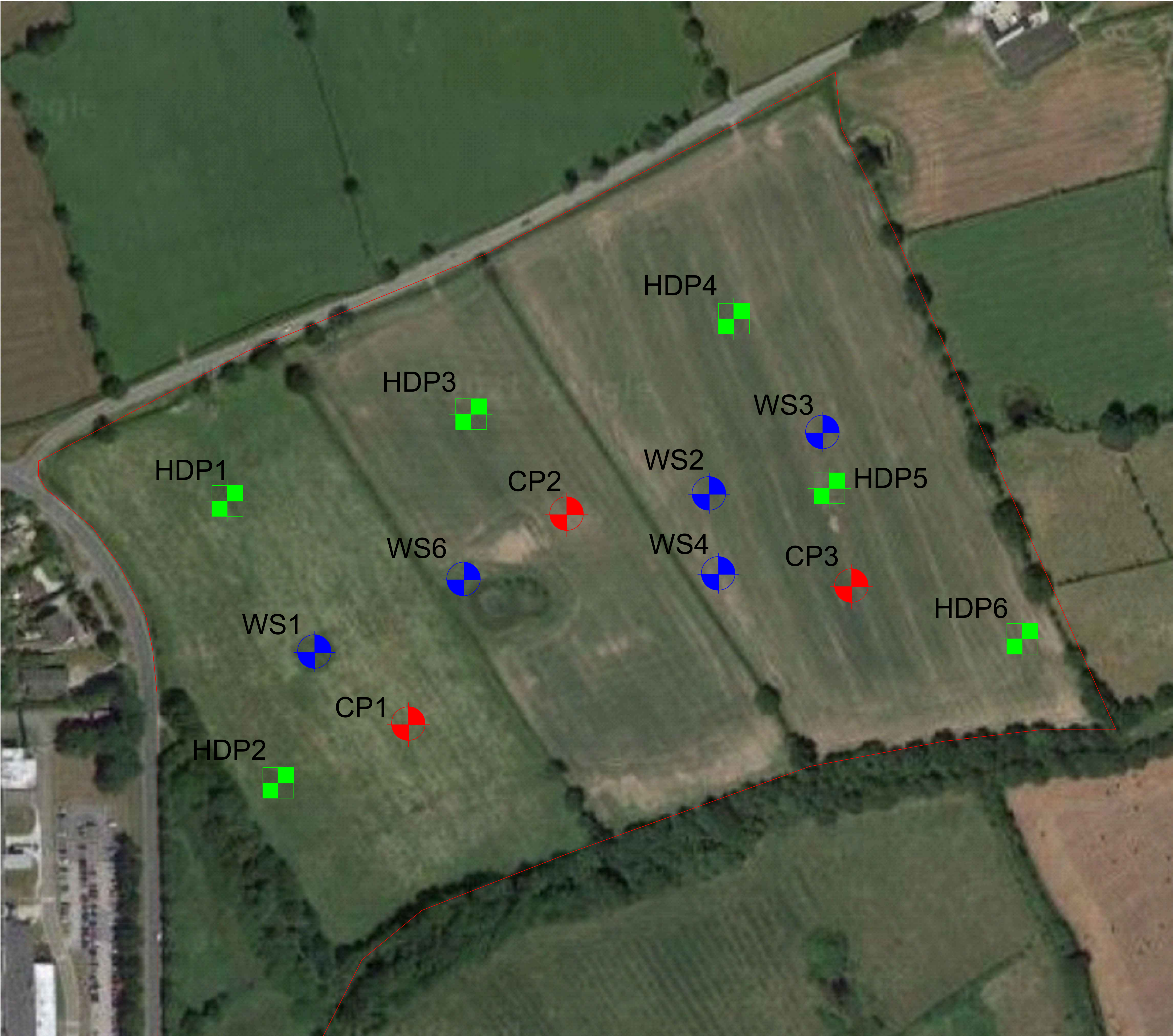
Contract Number	TE1456
Contract	Net World Sport, Wrexham
Client	Net World Sport

Site Location Plan



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Scale	NTS	
Drawn by	ER	Approved SL
Drawing Number	TE1456GIR1.0	



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- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- ALL LEVELS ARE IN METRES, UNLESS NOTED OTHERWISE

Rev:A	10.05.21	ER	EHLP	SL
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Revisions

Status

FINAL



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Client

NET_WORLD_SPORTS

Project

NET_WORLD_SPORTS_WREXHAM

Title

EXPLORATORY_HOLE_LOCATION_PLAN

Scale	Drawn	Revision
DNS	ER	A
Date	Checked	
10.05.21	SL	

Drawing Ref :

TE1456

GIR2.0



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Hazard Identification

ref	hazard	date
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Site.

Name	Area
------	------

Gross Site Area 46.82 acres

Area Schedule (GIA).

Name	Area	
	Metric	Imperial

Ground Floor - Warehouse GIA 35,478.13 m² 381,863 ft²

Ground Floor - Main Office GIA 1,207.70 m² 13,000 ft²

First Floor - Main Office GIA 1,207.70 m² 13,000 ft²

Ground Floor - HUB Office GIA 92.88 m² 1,000 ft²

First Floor - HUB Office GIA 92.88 m² 1,000 ft²

WC Block 32.50 m² 350 ft²

TOTAL 38,111.79 m² 410,232 ft²

Parking Schedule.

Description	Count
-------------	-------

Standard Car Parking Bay 366

Disabled parking bay 7

HGV Trailer Parking Bay 74

TOTAL: 447

P6	Update Issue	BC	11.06.21	DC
P5	Updated to meet comments	BC	02.06.21	DC
P4	Planning Update Issue	BC	01.06.21	DC
P3	Update Issue	BC	25.05.21	DC
P2	Parking Layout amended	BC	25.05.21	DC
P1	Planning Issue	BC	25.05.21	DC
Rev	Revision Details	Drawn	Date	Checked



Project Management • Architecture • Building Surveying • Cost Consultancy

Client

Net World Sports

Project

New Offices & Distribution Facility
Bryn Lane, Wrexham

Drawing Title

Site Plan as Proposed

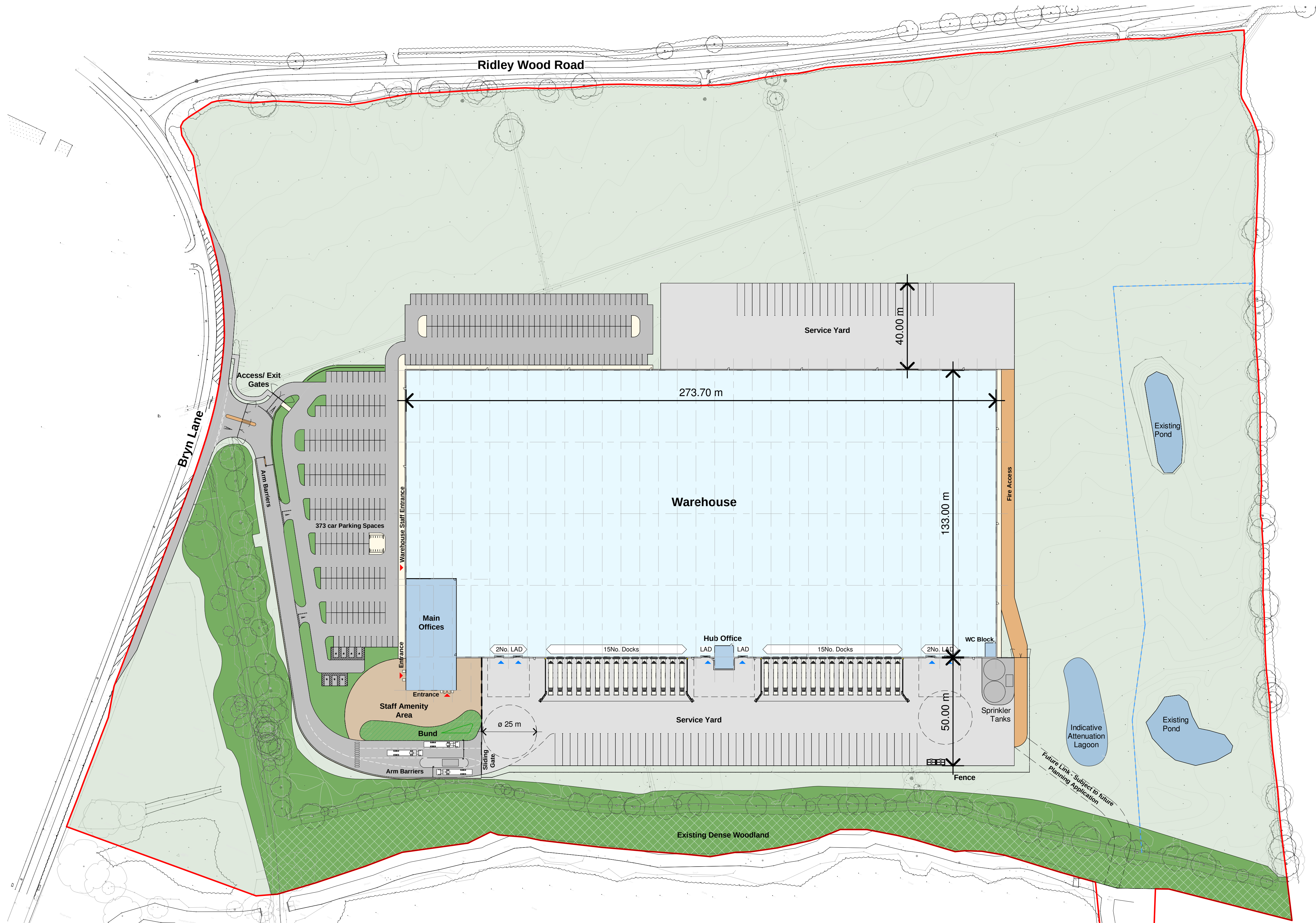
Status Purpose of Issue

S2 SUITABLE FOR INFORMATION

Drawn by BC Created May 21

C4 Job no. 19-153 Scale 1 : 1000 @ A1

Drg no. 19153-C4P-AV-ZZ-DR-A-0501 Rev P6



05-ZZ Site Plan as Proposed
1 1:1000

APPENDIX B - EXPLORATORY HOLE LOGS



Borehole Log

Borehole No.

CP1

Sheet 1 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 09/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description									
		Depth (m)	Type	Results													
		0.10	ES		0.23		Dark brown, sandy, slightly gravelly, very clayey TOPSOIL. Sand is fine to coarse, gravel is fine to coarse, angular to subrounded of sandstone, limestone and quartz. TOPSOIL										
		0.40	D														
		0.80	ES						N=18 (3,3/4,4,4,6)	3.10			Firm, dark brown, slightly gravelly CLAY. Gravel is fine to coarse, angular to rounded of coal, sandstone and quartz. COHESIVE TILL	1			
		1.00	D														
		1.20	SPTL S	N=39 (4,4/7,8,11,13)											2		
		1.20	S														
		1.70	B														
		2.00	ES	N=24 (4,5/5,5,7,7)					3								
		2.30	SPTL S														
		2.30	S														
		2.70	B	N=21 (3,4/4,5,6,6)													
		3.30	SPTL S									3.10				4	
		3.30	S														
		4.50	SPTL S	N=23 (4,4/4,6,6,7)					5								
		4.50	S														
		5.10	ES				N=19 (3,3/4,4,5,6)										
		5.50	SPTL S	3.10											6		
		5.50	S														
		7.00	SPTL S	N=24 (3,5/5,5,6,8)					7								
		7.00	S														
		8.30	ES				N=28 (4,5/5,7,8,8)										
		8.50	SPTL S	3.10											8		
		8.50	S														
		9.50		Continued on next sheet													
		9.80															

Continued on next sheet

10

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

CP1

Sheet 2 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 09/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					10.25			End of borehole at 10.25 m	
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

CP2

Sheet 1 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

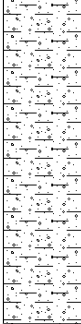
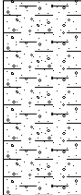
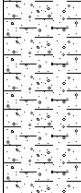
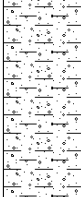
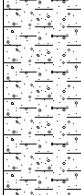
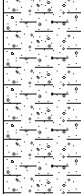
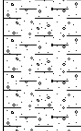
Level:

Scale
1:50

Client: Tier Consult

Dates: 09/04/2021 -

Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description					
		Depth (m)	Type	Results									
		0.10	ES	N=23 (2,2/4,4,7,8)	0.25			Dark brown, clayey, slightly gravelly TOPSOIL. Gravel is fine to coarse, angular to subrounded of limestone, sandstone and clods of clay. TOPSOIL	1				
		0.20	D										
		0.70	D					N=35 (4,6/7,8,10,10)		2.70		Firm, brown, slightly sandy, slightly gravelly CLAY. Sand is fine, gravel is fine to coarse of sandstone, mudstone and coal. COHESIVE TILL	2
		1.20	SPTL										
		1.20	S										
		1.40	ES										
		1.50	D										
		2.10	SPTL					N=38 (5,5/7,8,11,12)				Stiff, brown, slightly sandy, slightly gravelly CLAY. Sand is fine, gravel is fine to coarse of sandstone, mudstone and coal. COHESIVE TILL	3
		2.10	S										
		3.30	SPTL										
		3.30	S					N=25 (4,4/4,6,7,8)					4
		4.30	SPTL										
		4.30	S										
		4.90	ES					18 (4,4/5,5,,8)					5
		5.00	B										
5.40	SPTL												
5.40	S					6							
7.10	SPTL												
7.10	S												
7.70	B					7							
7.70													
8.30	ES					8							
								9					
								10					

Continued on next sheet

Continued on next sheet

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

CP2

Sheet 2 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 09/04/2021 -

Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		10.00 10.00	SPTL S	N=23 (3,3/6,5,6,6)	10.45				
								End of borehole at 10.45 m	
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

CP3

Sheet 1 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 10/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20 0.25	D ES		0.38			Dark brown, slightly gravelly, clayey TOPSOIL. Gravel is fine to coarse, angular to subrounded of coal, mudstone and quartz.	
		0.70 0.70	D ES					TOPSOIL Firm, brown, slightly sandy, slightly gravelly CLAY. Sand is fine, gravel is fine to coarse, subangular to rounded of mudstone, sandstone, coal, quartz and occasional igneous lithologies. COHESIVE TILL	1
		1.20 1.20	SPTL S	N=18 (3,3/4,4,5,5)					2
		2.30 2.30	SPTL S	N=37 (4,5/7,9,10,11)	2.75				
		2.80 2.90	B ES						3
		3.30 3.30	SPTL S	N=39 (3,4/6,8,11,14)					4
		4.30 4.30	SPTL S	15 (3,4/4,5,,6)					5
		4.70	ES						6
		5.10	B						7
		6.40 6.40	SPTL S	N=41 (4,5/7,8,11,15)					8
		7.10 7.10	SPTL S	N=29 (3,3/5,8,8,8)					9
		8.00	ES						10
		8.50 8.50	SPTL S	N=40 (4,5/7,8,12,13)					
		9.90		N=21 (2,3/4,5,6,6)					
								Continued on next sheet	

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

CP3

Sheet 2 of 2

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
CP

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 10/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					10.35			End of borehole at 10.35 m	
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20

Remarks

1) Hand dug pit 1.20m bgl for service clearance purposes. 2) Terminated at target depth. 3) No. groundwater ingress encountered.





Borehole Log

Borehole No.

WS1

Sheet 1 of 1

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
WS

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 06/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.28			0.28			Dark brown, sandy, slightly gravelly, slightly clayey TOPSOIL. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded of sandstone, mudstone and quartz TOPSOIL	
		1.20 1.20	SPTL S	N=7 (1,1/1,2,2,2)				Medium to stiff, dark brown, slightly sandy, silty, gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subangular of limestone, sandstone and coal	1
		2.00 2.00	SPTL S	N=9 (1,1/3,2,2,2)					2
		3.00 3.00	SPTL S	N=40 (5,8/10,10,10,10)					3
		4.00 4.00	SPTL S	N=50 (6,9/11,13,13,13)	4.30			End of borehole at 4.30 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) Hand dug pit to 1.20m bgl 2) Terminated at refusal





Borehole Log

Borehole No.

WS2

Sheet 1 of 1

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
WS

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 06/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.28			0.28			Dark brown, sandy, slightly gravelly, clayey TOPSOIL. Sand is fine to coarse. Gravel is fine to medium, subangular to subrounded of coal, sandstone and mudstone	
		1.20 1.20	SPTL S	N=16 (3,3/3,4,4,5)				TOPSOIL Firm becoming stiff, dark brown, slightly gravelly CLAY. Gravel is fine to medium, angular to subrounded of coal, sandstone and mudstone	1
		2.00 2.00	SPTL S	N=26 (3,4/5,5,7,9)					2
		3.00 3.00	SPTL S	N=29 (4,5/7,7,7,8)					3
		4.00 4.00	SPTL S	N=50 (7,7/10,13,13,14)	4.45			End of borehole at 4.45 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) Hand dug pit to 1.20m bgl 2) Terminated at target depth





Borehole Log

Borehole No.

WS3

Sheet 1 of 1

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
WS

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 06/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.30			Dark brown, slightly sandy, slightly gravelly TOPSOIL. Sand is fine to medium. Gravel is fine to medium, subangular to rounded of quartz, mudstone, sandstone and coal TOPSOIL	
		0.85	ES					Firm becoming stiff, dark orange, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium, angular to subrounded of coal, sandstone and mudstone	1
		1.20	SPTL						
		1.20	S	N=13 (3,3/3,3,3,4)					
		1.70	B						
		2.00	SPTL						2
		2.00	S	N=23 (3,4/4,5,6,8)					
		3.00	SPTL						3
		3.00	S	N=54 (6,9/54 for 295mm)					
		3.30	SPTL		3.50				
		3.30	S	N=56 (10,11/56 for 290mm)				End of borehole at 3.50 m	4
									5
									6
									7
									8
									9
									10

Remarks

1) Hand dug pit to 1.20m bgl 2) Terminated at refusal





Borehole Log

Borehole No.

WS4

Sheet 1 of 1

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
WS

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 06/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.37						Dark brown, sandy, slightly gravelly, clayey TOPSOIL. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of sandstone, mudstone and coal	
		1.20 1.20	SPTL S	N=21 (3,4/4,5,6,6)				Stiff, dark brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, subangular to rounded of sandstone, coal and mudstone	1
		2.00 2.00	SPTL S	N=31 (3,4/5,7,9,10)					2
		3.00 3.00	SPTL S	N=50 (7,10/50 for 290mm)	3.35			End of borehole at 3.35 m	3
									4
									5
									6
									7
									8
									9
									10

Remarks

1) Hand dug pit to 1.20m bgl 2) Terminated at refusal





Borehole Log

Borehole No.

WS6

Sheet 1 of 1

Project Name: Net World Sports

Project No.
TE1456

Co-ords: -

Hole Type
WS

Location: Wrexham Industrial Estate

Level:

Scale
1:50

Client: Tier Consult

Dates: 06/04/2021 -

Logged By
ER

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30			0.30			Dark brown, slightly sandy, slightly gravelly, clayey TOPSOIL. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded of sandstone and mudstone	
		1.20 1.20	SPTL S	N=17 (3,3/4,4,4,5)				Firm to stiff, dark brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium, angular to subrounded of sandstone, coal, mudstone and infrequent igneous lithologies	1
		2.00 2.00	SPTL S	N=26 (3,3/5,6,7,8)					2
		3.00 3.00	SPTL S	N=21 (3,3/4,4,5,8)					3
		4.00 4.00	SPTL S	N=44 (5,7/10,11,12,11)					4
		5.00 5.00	SPTL S	N=42 (6,7/10,10,11,11)	5.45			End of borehole at 5.45 m	5
									6
									7
									8
									9
									10

Remarks

1) Hand dug pit to 1.20m bgl 2) Water strike at 4.60m bgl 3) Terminated at target depth



APPENDIX C - GEOENVIRONMENTAL SOIL LABORATORY RESULTS

Tier Environmental
Suite 513, Chadwick House
Warrington Rd
Birchwood
Warrington
WA3 6AE



Attention :	Adrian Read
Date :	23rd April, 2021
Your reference :	TE1456
Our reference :	Test Report 21/5291 Batch 2
Location :	Net World Sports, Wrexham
Date samples received :	14th April, 2021
Status :	Final report
Issue :	1

Seventeen samples were received for analysis on 14th April, 2021 of which six 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.

Authorised By:



Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read
EMT Job No: 21/5291

Report : Solid

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

EMT Sample No.	46-48	52-54	58-59	63-65	69-71	84-86					Please see attached notes for all abbreviations and acronyms		
Sample ID	HDP1	HDP2	HDP4	HDP6	CP2	CP3							
Depth	0.05	0.10	0.15	0.60	1.40	2.90							
COC No / misc													
Containers	V J T	V J T	V T	V J T	V J T	V J T							
Sample Date	10/04/2021	10/04/2021	10/04/2021	10/04/2021	09/04/2021	10/04/2021							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	2	2	2	2	2	2					LOD/LOR	Units	Method No.
Date of Receipt	14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021							
Arsenic #	11.0	10.8	10.4	8.6	10.4	8.5					<0.5	mg/kg	TM30/PM15
Cadmium #	0.2	0.2	0.2	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Chromium #	64.7	60.0	55.4	45.0	48.2	44.6					<0.5	mg/kg	TM30/PM15
Copper #	21	16	17	25	26	22					<1	mg/kg	TM30/PM15
Lead #	65	71	71	31	27	33					<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Nickel #	30.8	29.0	29.6	43.6	42.8	39.1					<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	<1	<1	<1					<1	mg/kg	TM30/PM15
Sulphur as S	0.06	-	0.06	-	-	-					<0.01	%	TM30/PM15
Total Sulphate as SO4 #	731	789	782	2632	555	2609					<50	mg/kg	TM50/PM29
Total Sulphate as SO4 BRE	0.07	-	0.08	-	-	-					<0.01	%	TM50/PM29
Zinc #	92	86	88	78	76	76					<5	mg/kg	TM30/PM15
Magnesium	0.0051	-	0.0061	-	-	-					<0.0001	g/l	TM30/PM20
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06					<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04					<0.04	mg/kg	TM4/PM8
Coronene	-	<0.04	-	-	-	-					<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6					<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	<0.64	-	-	-	-					<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	92	82	93	84	91	75					<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	<30	-	-	-	-					<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read
EMT Job No: 21/5291

Report : Solid

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

EMT Sample No.	46-48	52-54	58-59	63-65	69-71	84-86					Please see attached notes for all abbreviations and acronyms		
Sample ID	HDP1	HDP2	HDP4	HDP6	CP2	CP3							
Depth	0.05	0.10	0.15	0.60	1.40	2.90							
COC No / misc													
Containers	V J T	V J T	V T	V J T	V J T	V J T							
Sample Date	10/04/2021	10/04/2021	10/04/2021	10/04/2021	09/04/2021	10/04/2021							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	2	2	2	2	2	2							
Date of Receipt	14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021	14/04/2021					LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	-	<0.2	<0.2					<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	-	<4	<4					<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	-	<26	<26					<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	-	<0.1	<0.1					<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	-	<0.2	<0.2					<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	-	<4	<4					<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	-	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	-	<26	<26					<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	-	<52	<52					<52	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	-	<5	<5					<5	ug/kg	TM36/PM12
PCB 28 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 52 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 101 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 118 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 138 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 153 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 180 #	-	<5	-	-	-	-					<5	ug/kg	TM17/PM8
Total 7 PCBs #	-	<35	-	-	-	-					<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15					<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	42.4	42.0	37.1	18.1	29.0	23.4					<0.1	%	PM4/PM0
Ammoniacal Nitrogen as NH4	<0.6	-	<0.6	-	-	-					<0.6	mg/kg	TM38/PM20

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Please see attached notes for all abbreviations and acronyms

Mass of sample taken (kg)	-	Moisture Content Ratio (%) =	21.5
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	82.3
Particle Size <4mm =	>95%		
EMT Job No	21/5291	Landfill Waste Acceptance Criteria Limits	
Sample No	54		
Client Sample No	HDP2		
Depth/Other	0.10		
Sample Date	10/04/2021		
Batch No	2		
Solid Waste Analysis		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non- Hazardous Landfill
Total Organic Carbon (%)	2.86	3	5
Loss on Ignition (%)	14.4	-	10
Sum of BTEX (mg/kg)	<0.025	6	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-
PAH Sum of 17(mg/kg)	<0.64	100	-
pH (pH Units)	6.49	-	>6
ANC to pH 7 (mol/kg)	NDP	-	to be evaluated
ANC to pH 4 (mol/kg)	0.04	-	to be evaluated
Eluate Analysis	10:1 conc ⁿ leached		Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg
	C ₁₀ mg/l	A ₁₀ mg/kg	
Arsenic	<0.0025	<0.025	0.5
Barium	0.004	0.04	2
Cadmium	<0.0005	<0.005	100
Chromium	<0.0015	<0.015	0.04
Copper	<0.007	<0.07	1
Mercury	<0.001	<0.01	5
Molybdenum	<0.002	<0.02	0.5
Nickel	0.003	0.03	10
Lead	<0.005	<0.05	0.4
Antimony	<0.002	<0.02	10
Selenium	<0.003	<0.03	0.5
Zinc	0.003	0.03	0.06
Chloride	3.6	36	0.7
Fluoride	0.3	3	7
Sulphate as SO ₄	13.4	134	0.1
Total Dissolved Solids	41	410	4
Phenol	<0.01	<0.1	50
Dissolved Organic Carbon	19	190	800

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Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

[illegible]

Matrix : Solid

[illegible]

[illegible]

8 of 16

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/5291

SOILS

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.

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.

Where Mineral Oil or Fats, Oils and Grease 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 overestimate 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 or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

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 UKAS requirement 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.

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.

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 calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
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: 21/5291

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes

EMT Job No: 21/5291

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
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes

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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
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.			AD	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes

EMT Job No: 21/5291

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
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Tier Environmental
Suite 513, Chadwick House
Warrington Rd
Birchwood
Warrington
WA3 6AE



Attention : Adrian Read
Date : 28th April, 2021
Your reference : TE1456
Our reference : Test Report 21/5291 Batch 1
Location : Net World Sports, Wrexham
Date samples received : 10th April, 2021
Status : Final report
Issue : 1

Sixteen samples were received for analysis on 10th April, 2021 of which five 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.

Authorised By:



Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read
EMT Job No: 21/5291

Report : Solid

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

EMT Sample No.	1-3	18-20	21-23	31-33	43-45						Please see attached notes for all abbreviations and acronyms		
Sample ID	WS1	WS4	WS6	CP1	WS3								
Depth	0.20	1.80	0.10	0.80	0.20								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	06/04/2021	06/04/2021	06/04/2021	09/04/2021	06/04/2021								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	10/04/2021	10/04/2021	10/04/2021	10/04/2021	10/04/2021						LOD/LOR	Units	Method No.
Arsenic #	14.4	10.3	10.0	11.2	11.8						<0.5	mg/kg	TM30/PM15
Cadmium #	0.4	<0.1	<0.1	0.1	<0.1						<0.1	mg/kg	TM30/PM15
Chromium #	69.1	46.2	47.4	54.0	53.3						<0.5	mg/kg	TM30/PM15
Copper #	41	26	23	20	16						<1	mg/kg	TM30/PM15
Lead #	55	19	14	37	39						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Nickel #	52.8	38.8	39.4	35.8	31.8						<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	<1	1	1						<1	mg/kg	TM30/PM15
Sulphur as S	0.03	-	-	0.04	-						<0.01	%	TM30/PM15
Total Sulphate as SO4 #	308	671	382	379	417						<50	mg/kg	TM50/PM29
Total Sulphate as SO4 BRE	0.03	-	-	0.04	-						<0.01	%	TM50/PM29
Zinc #	213	70	66	70	77						<5	mg/kg	TM30/PM15
Magnesium	0.0043	-	-	0.0151	-						<0.0001	g/l	TM30/PM20
PAH MS													
Naphthalene #	0.05	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.06	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Fluorene #	0.05	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.72	<0.03	<0.03	0.10	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	0.20	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	2.42	<0.03	<0.03	0.17	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	2.06	<0.03	<0.03	0.14	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.36	<0.06	<0.06	0.09	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	1.41	<0.02	<0.02	0.08	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	2.85	<0.07	<0.07	0.14	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.56	<0.04	<0.04	0.08	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	1.12	<0.04	<0.04	0.05	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.23	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	1.05	<0.04	<0.04	0.05	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	-	-	-	-	<0.04						<0.04	mg/kg	TM4/PM8
PAH 16 Total	15.1	<0.6	<0.6	0.9	<0.6						<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	-	-	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	2.05	<0.05	<0.05	0.10	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.80	<0.02	<0.02	0.04	<0.02						<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	88	70	77	75	87						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	-	-	<30						<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read
EMT Job No: 21/5291

Report : Solid

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

EMT Sample No.	1-3	18-20	21-23	31-33	43-45						Please see attached notes for all abbreviations and acronyms		
Sample ID	WS1	WS4	WS6	CP1	WS3								
Depth	0.20	1.80	0.10	0.80	0.20								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	06/04/2021	06/04/2021	06/04/2021	09/04/2021	06/04/2021								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	10/04/2021	10/04/2021	10/04/2021	10/04/2021	10/04/2021						LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26	<26						<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4						<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	<26	<26						<26	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 52 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 101 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 118 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 138 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 153 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
PCB 180 #	-	-	-	-	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs #	-	-	-	-	<35						<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15						<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	26.1	18.1	18.0	27.1	27.8						<0.1	%	PM4/PM0
Ammoniacal Nitrogen as NH4	<0.6	-	-	<0.6	-						<0.6	mg/kg	TM38/PM20

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read
EMT Job No: 21/5291

Report : Solid

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

EMT Sample No.	1-3	18-20	21-23	31-33	43-45						Please see attached notes for all abbreviations and acronyms		
Sample ID	WS1	WS4	WS6	CP1	WS3								
Depth	0.20	1.80	0.10	0.80	0.20								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	06/04/2021	06/04/2021	06/04/2021	09/04/2021	06/04/2021								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	10/04/2021	10/04/2021	10/04/2021	10/04/2021	10/04/2021						LOD/LOR	Units	Method No.
Chloride (2:1 Ext BRE) #	0.002	-	-	0.008	-						<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Nitrate as NO3 (2:1 Ext BRE)	0.0047	-	-	0.0085	-						<0.0025	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0171	0.1662	0.0797	0.0975	0.0114						<0.0015	g/l	TM38/PM20
Total Organic Carbon #	2.92	0.24	0.23	0.90	1.51						<0.02	%	TM21/PM24
Nitrocellulose Colour*	-	-	-ve	-	-ve							None	Subcontracted
Nitrocellulose Colourimetric*	-	-	<5000	-	<5000							mg/kg	Subcontracted
Cyclotetramethylene Tetranitramine (HMX)*	-	-	<2	-	<2							mg/kg	Subcontracted
Cyclo-1,3,5-Trimethylene-2,4,6-Trinitramine (RDX)*	-	-	<2	-	<2							mg/kg	Subcontracted
Ethylene Glycol Dinitrate (EGDN)*	-	-	<1	-	<1							mg/kg	Subcontracted
2,4,6-Trinitro-Phenylmethyl Nitramine (Tetryl)*	-	-	<1	-	<1							mg/kg	Subcontracted
Glycerol Trinitrate (NG)*	-	-	<1	-	<1							mg/kg	Subcontracted
2,4,6-Trinitrotoluene (TNT)*	-	-	<0.1	-	<0.1							mg/kg	Subcontracted
2,6-Dinitrotoluene*	-	-	<1	-	<1							mg/kg	Subcontracted
2,4-Dinitrotoluene*	-	-	<1	-	<1							mg/kg	Subcontracted
Hexanitro-Stilbene (HNS)*	-	-	<0.5	-	<0.5							mg/kg	Subcontracted
Pentaerythritol Tetranitrate (PETN)*	-	-	<5	-	<5							mg/kg	Subcontracted
Nitroguanidine (Picrite)*	-	-	<0.25	-	<0.25							mg/kg	Subcontracted
2,4,6-Trinitro Phenol (Picric Acid)*	-	-	<0.1	-	<0.1							mg/kg	Subcontracted
ANC at pH4	-	-	-	-	0.05						<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	-	-	NDP						<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	-	-	6.8						<1.0	%	TM22/PM0
pH #	7.75	8.65	8.76	8.07	7.11						<0.01	pH units	TM73/PM11

Mass of sample taken (kg)	-	Moisture Content Ratio (%) =	25.4
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	79.7
Particle Size <4mm =	>95%		
EMT Job No	21/5291	Landfill Waste Acceptance Criteria Limits	
Sample No	45		
Client Sample No	WS3		
Depth/Other	0.20		
Sample Date	06/04/2021		
Batch No	1		
Solid Waste Analysis		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non- Hazardous Landfill
Total Organic Carbon (%)	1.51	3	5
Loss on Ignition (%)	6.8	-	10
Sum of BTEX (mg/kg)	<0.025	6	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-
PAH Sum of 17(mg/kg)	<0.64	100	-
pH (pH Units)	7.11	-	>6
ANC to pH 7 (mol/kg)	NDP	-	to be evaluated
ANC to pH 4 (mol/kg)	0.05	-	to be evaluated
Eluate Analysis	10:1 conc ⁿ leached		Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg
	C ₁₀ mg/l	A ₁₀ mg/kg	
Arsenic	<0.0025	<0.025	0.5
Barium	0.013	0.13	20
Cadmium	<0.0005	<0.005	0.04
Chromium	<0.0015	<0.015	0.5
Copper	0.008	0.08	2
Mercury	<0.001	<0.01	0.01
Molybdenum	<0.002	<0.02	0.5
Nickel	0.003	0.03	0.4
Lead	0.009	0.09	0.5
Antimony	<0.002	<0.02	0.06
Selenium	<0.003	<0.03	0.1
Zinc	0.010	0.10	4
Chloride	2.8	28	800
Fluoride	0.4	4	10
Sulphate as SO ₄	10.0	100	1000
Total Dissolved Solids	90	900	4000
Phenol	<0.01	<0.1	1
Dissolved Organic Carbon	14	140	500

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

[illegible]

Matrix : Solid

[illegible]

Client Name: Tier Environmental
Reference: TE1456
Location: Net World Sports, Wrexham
Contact: Adrian Read

[illegible]

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.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 21/5291

SOILS

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.

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.

Where Mineral Oil or Fats, Oils and Grease 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 overestimate 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 or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

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 UKAS requirement 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.

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.

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 calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
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: 21/5291

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes

EMT Job No: 21/5291

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes

EMT Job No: 21/5291

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.			AD	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM77	Modified DDCE/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes

EMT Job No: 21/5291

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
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AD	Yes

TEST CERTIFICATE

Certificate No: BC0029/21

Site : 21/5291

Ref : 43X10329

Client : Element Materials Technology

Date Received : 21/04/2021

Address : Unit 3
Deeside Point
Deeside Industrial Park
Deeside

Date Completed : 27/04/2021

Date Of Report : 27/04/2021

CH5 2UA

Attention : Project Manager

Accreditation Key:

U = UKAS

M = UKAS & MCERTS

S = Subcontracted Tests

Test Methods

Deviating Sample(s)

Standard Explosives Suite

This test certificate contains deviating samples: See Notes

using ESAL/QC/4 parts a, j, either k or LCMSsoils, HPLCsoils, NC by l or m

Approved :



Mr D.C. Poole

Laboratory manager

Mr P.D. Hart

Senior Analyst



1764

BAE SYSTEMS

TABLE OF RESULTS

Lab Code	20210414		20210415	
Client Ref A	21/5291 - 22		21/5291 - 44	
Client Ref B	06/04/21		06/04/21	
Client Ref C				
Sample Type	Soil		Soil	
Soil Type	Clay - Brown		Clay - Brown	
NC Colour	-ve	U	-ve	U
NC Colourimetric	<5000	mg/kg U	<5000	mg/kg U
HMX	<2	mg/kg M	<2	mg/kg M
RDX	<2	mg/kg M	<2	mg/kg M
EGDN	<1	mg/kg M	<1	mg/kg M
Tetryl	<1	mg/kg M	<1	mg/kg M
NG	<1	mg/kg M	<1	mg/kg M
TNT	<0.1	mg/kg M	<0.1	mg/kg M
2,6-DNT	<1	mg/kg M	<1	mg/kg M
2,4-DNT	<1	mg/kg M	<1	mg/kg M
PETN	<5	mg/kg M	<5	mg/kg M
HNS	<0.5	mg/kg M	<0.5	mg/kg M
Picrite	<0.25	mg/kg M	<0.25	mg/kg M
Picric Acid	<0.1	mg/kg M	<0.1	mg/kg M

COMMENTS AND DEPARTURES FROM STANDARD PROCEDURES

Lab ID	Client Descriptions		Notes
20210414	21/5291 - 22	06/04/21	Client references indicate that the sampling date exceeds allowable holding time for all tests. Therefore, this sample is deemed as deviating and as a consequence all test results may be invalid.
20210415	21/5291 - 44	06/04/21	Client references indicate that the sampling date exceeds allowable holding time for all tests. Therefore, this sample is deemed as deviating and as a consequence all test results may be invalid.

NOTES

1. This test report shall not be reproduced except in full, without written approval of the laboratory.
2. All results for soil samples are reported based on dry weight of soil which has been air-dried in open, shallow trays at temperatures below 30°C and subsequently ground and sieved to pass through a nominal 710µm aperture sieve. Prior to grinding, any material which is retained on a sieve of mesh size 4.5mm is discarded. Analysis is carried out directly on these prepared soils with the exception of petrol range organic compounds. These analyses are carried out on the soil "As Received" and corrected for the dry weight (at 105 °C) prior to reporting.
3. BAE Systems does not correct results for analytical recoveries.
4. All samples were received in good condition unless otherwise stated. Results provided by the Laboratory are based on samples submitted by clients. The Laboratory cannot be held responsible for the storage, condition or preservation of samples prior to arrival.
5. Validation studies indicate that the concentration of nitrocellulose in high organic content soils may be overestimated.
6. Results stated in this test report relate only to the samples tested.
7. Soil descriptions are given in order to provide a log of sample matrices submitted and are not intended as full geological descriptions.
8. The initials or common names used for reporting explosives relate to the following compounds: Nitrocellulose(NC); Cyclotetramethylene Tetranitramine (HMX); Cyclo-1,3,5-Trimethylene-2,4,6-Trinitramine (RDX); Ethylene Glycol Dinitrate (EGDN); 2,4,6-Trinitro-Phenylmethyl Nitramine (Tetryl); Glycerol Trinitrate (NG); 2,4,6-Trinitrotoluene (TNT); Pentaerythritol Tetranitrate (PETN); Hexanitro-Stilbene (HNS); Nitroguanidine (Picrite); 2,4,6-Trinitro Phenol (Picric Acid); 2,4-Dinitrotoluene (2,4-DNT); 2,6-Dinitrotoluene (2,6-DNT), 2-Amino-4,6-Dinitrotoluene (2-Amino-4,6-DNT), 4-Amino-4,6-Dinitrotoluene (4-Amino-2,6-DNT).
9. Some reporting limits may be raised due to poor recovery of internal standard or dilution of highly contaminated samples.
10. In unacidified waters Tetryl, 1,3,5-TNB, 1,3-DNB and TNT are unstable decaying rapidly over a few days or less depending on the sample matrix. 2-Amino-4,6-DNT, 2,6-DNT and 2,4-DNT are generally more stable depending on the sample matrix, but are likely to show significant loss after three weeks. HMX, RDX, EGDN, PETN, NB, MNT isomers, 4-Amino-2,6-DNT, Picrite and Picric acid are relatively stable after three weeks in unpreserved water samples. These comments are based on laboratory in house trials in surface and ground waters and results from literature searches.
11. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

End of Report BC0029/21

Waste Classification Report



3PYX3-H98JW-Q9TET

Job name

EMT-21-5291-Batch-1-File-1

Description/Comments

Project

Net World Sports, Wrexham Industrial Estate

Site

TE1456

Related Documents

#	Name	Description
1	EMT-21-5291-Batch-1-File-1.HWOL	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name: **Jessica Rogers**
Date: **28 Apr 2021 11:39 GMT**
Telephone: **01925 818388**

Company: **Tier Environmental**
Chadwick house
Warrington Road,

HazWasteOnline™ Training Record:

Course	Date
Hazardous Waste Classification	-
Advanced Hazardous Waste Classification	-

Report

Created by: Jessica Rogers
Created date: 28 Apr 2021 11:39 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1-06/04/2021-0.20m		Non Hazardous		2
2	WS4-06/04/2021-1.80m		Non Hazardous		4
3	WS6-06/04/2021-0.10m		Non Hazardous		6
4	CP1-09/04/2021-0.80m		Non Hazardous		8
5	WS3-06/04/2021-0.20m		Non Hazardous		10

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	12
Appendix B: Rationale for selection of metal species	13
Appendix C: Version	14

Classification of sample: WS1-06/04/2021-0.20m

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

Sample details

Sample Name:	LoW Code:
WS1-06/04/2021-0.20m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
26.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 26.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				14.4	mg/kg	1.32	15.077	mg/kg	0.00151 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.4	mg/kg	1.142	0.362	mg/kg	0.0000362 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				69.1	mg/kg	1.462	80.09	mg/kg	0.00801 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				41	mg/kg	1.126	36.607	mg/kg	0.00366 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	55	mg/kg	1.56	68.033	mg/kg	0.00436 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				52.8	mg/kg	2.976	124.621	mg/kg	0.0125 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				1	mg/kg	2.554	2.025	mg/kg	0.000203 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				213	mg/kg	2.774	468.591	mg/kg	0.0469 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		7.75 pH		7.75 pH	7.75 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		0.05 mg/kg		0.0397 mg/kg	0.00000397 %	✓	
18	acenaphthylene	205-917-1	208-96-8		0.06 mg/kg		0.0476 mg/kg	0.00000476 %	✓	
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.0397 mg/kg	0.00000397 %	✓	
21	phenanthrene	201-581-5	85-01-8		0.72 mg/kg		0.571 mg/kg	0.0000571 %	✓	
22	anthracene	204-371-1	120-12-7		0.2 mg/kg		0.159 mg/kg	0.0000159 %	✓	
23	fluoranthene	205-912-4	206-44-0		2.42 mg/kg		1.919 mg/kg	0.000192 %	✓	
24	pyrene	204-927-3	129-00-0		2.06 mg/kg		1.634 mg/kg	0.000163 %	✓	
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		1.36 mg/kg		1.079 mg/kg	0.000108 %	✓	
26	chrysene 601-048-00-0	205-923-4	218-01-9		1.41 mg/kg		1.118 mg/kg	0.000112 %	✓	
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		2.05 mg/kg		1.626 mg/kg	0.000163 %	✓	
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.8 mg/kg		0.634 mg/kg	0.0000634 %	✓	
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		1.56 mg/kg		1.237 mg/kg	0.000124 %	✓	
30	indeno[123-cd]pyrene 205-893-2		193-39-5		1.12 mg/kg		0.888 mg/kg	0.0000888 %	✓	
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.23 mg/kg		0.182 mg/kg	0.0000182 %	✓	
32	benzo[ghi]perylene 205-883-8		191-24-2		1.05 mg/kg		0.833 mg/kg	0.0000833 %	✓	
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		300 mg/kg	3.211	763.994 mg/kg	0.0764 %	✓	
34	Total TPH		GTC05C40ALAR		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.16 %		

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)
- Determinand defined by classifier (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: WS4-06/04/2021-1.80m

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

Sample details

Sample Name:	LoW Code:
WS4-06/04/2021-1.80m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				10.3	mg/kg	1.32	11.515	mg/kg	0.00115 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				46.2	mg/kg	1.462	57.175	mg/kg	0.00572 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	24.787	mg/kg	0.00248 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	19	mg/kg	1.56	25.094	mg/kg	0.00161 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				38.8	mg/kg	2.976	97.781	mg/kg	0.00978 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				70	mg/kg	2.774	164.429	mg/kg	0.0164 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.65 pH		8.65 pH	8.65 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.0428 %		

Key

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

Classification of sample: WS6-06/04/2021-0.10m

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

Sample details

Sample Name:	LoW Code:
WS6-06/04/2021-0.10m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				10	mg/kg	1.32	11.189	mg/kg	0.00112 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { • chromium(III) oxide (worst case) }				47.4	mg/kg	1.462	58.71	mg/kg	0.00587 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				23	mg/kg	1.126	21.945	mg/kg	0.00219 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	14	mg/kg	1.56	18.506	mg/kg	0.00119 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				39.4	mg/kg	2.976	99.377	mg/kg	0.00994 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				66	mg/kg	2.774	155.164	mg/kg	0.0155 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.76 pH		8.76 pH	8.76 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.0414 %		

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)
•	Determinand defined by classifier (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Classification of sample: CP1-09/04/2021-0.80m

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

Sample details

Sample Name:	LoW Code:	
CP1-09/04/2021-0.80m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
27.1% (dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 27.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				11.2	mg/kg	1.32	11.635	mg/kg	0.00116 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.1	mg/kg	1.142	0.0899	mg/kg	0.00000899 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				54	mg/kg	1.462	62.096	mg/kg	0.00621 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				20	mg/kg	1.126	17.717	mg/kg	0.00177 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	37	mg/kg	1.56	45.408	mg/kg	0.00291 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				35.8	mg/kg	2.976	83.832	mg/kg	0.00838 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				1	mg/kg	2.554	2.009	mg/kg	0.000201 %	✓	
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				70	mg/kg	2.774	152.785	mg/kg	0.0153 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.07 pH		8.07 pH	8.07 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		0.1 mg/kg		0.0787 mg/kg	0.00000787 %	✓	
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		0.17 mg/kg		0.134 mg/kg	0.0000134 %	✓	
24	pyrene	204-927-3	129-00-0		0.14 mg/kg		0.11 mg/kg	0.000011 %	✓	
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.09 mg/kg		0.0708 mg/kg	0.00000708 %	✓	
26	chrysene 601-048-00-0	205-923-4	218-01-9		0.08 mg/kg		0.0629 mg/kg	0.00000629 %	✓	
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.1 mg/kg		0.0787 mg/kg	0.00000787 %	✓	
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.04 mg/kg		0.0315 mg/kg	0.00000315 %	✓	
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.08 mg/kg		0.0629 mg/kg	0.00000629 %	✓	
30	indeno[123-cd]pyrene 205-893-2		193-39-5		0.05 mg/kg		0.0393 mg/kg	0.00000393 %	✓	
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		0.05 mg/kg		0.0393 mg/kg	0.00000393 %	✓	
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		400 mg/kg	3.211	1010.644 mg/kg	0.101 %	✓	
34	Total TPH		GTC05C40ALAR		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.142 %		

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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Classification of sample: WS3-06/04/2021-0.20m

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

Sample details

Sample Name:	LoW Code:
WS3-06/04/2021-0.20m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
27.8%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 27.8% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				11.8	mg/kg	1.32	12.191	mg/kg	0.00122 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				53.3	mg/kg	1.462	60.955	mg/kg	0.0061 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	14.096	mg/kg	0.00141 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	39	mg/kg	1.56	47.6	mg/kg	0.00305 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				31.8	mg/kg	2.976	74.057	mg/kg	0.00741 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				1	mg/kg	2.554	1.998	mg/kg	0.0002 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				77	mg/kg	2.774	167.143	mg/kg	0.0167 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		7.11 pH		7.11 pH	7.11 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	polychlorobiphenyls; PCB 602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
34	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
35	coronene 205-881-7		191-07-1		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
Total:								0.0415 %		

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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **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

 Total TPH (CAS Number: GTC05C40ALAR)

Description/Comments:

Data source:

Data source date: 24 Feb 2021

Hazard Statements: None.

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

CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

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

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

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

• **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases;

SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2 H371

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

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

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

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

selenium {nickel selenate}

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

zinc {zinc chromate}

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

sulfur {sulphur dichloride}

Assumed worst case compound

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**

HazWasteOnline Classification Engine Version: 2021.117.4756.9097 (27 Apr 2021)

HazWasteOnline Database: 2021.117.4756.9097 (27 Apr 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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

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

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

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

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

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

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

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

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2019 - UK: 2019 No. 720 of 27th March 2019

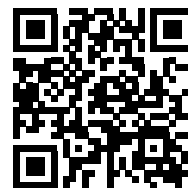
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019

Waste Classification Report



3MK39-626J5-YG37E

Job name

EMT-21-5291-Batch-1-File-2

Description/Comments

Project

TE1456

Site

Net World Sports, Wrexham Industrial Estate

Related Documents

#	Name	Description
1	EMT-21-5291-Batch-1-File-2.HWOL	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name: **Jessica Rogers**
Date: **28 Apr 2021 11:44 GMT**
Telephone: **01925 818388**

Company: **Tier Environmental**
Chadwick house
Warrington Road,

HazWasteOnline™ Training Record:

Course	Date
Hazardous Waste Classification	-
Advanced Hazardous Waste Classification	-

Report

Created by: Jessica Rogers
Created date: 28 Apr 2021 11:44 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1-06/04/2021-0.20m		Non Hazardous		2
2	WS4-06/04/2021-1.80m		Non Hazardous		4
3	WS6-06/04/2021-0.10m		Non Hazardous		6
4	CP1-09/04/2021-0.80m		Non Hazardous		9
5	WS3-06/04/2021-0.20m		Non Hazardous		11

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	14
Appendix B: Rationale for selection of metal species	15
Appendix C: Version	16

Classification of sample: WS1-06/04/2021-0.20m

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

Sample details

Sample Name:	LoW Code:
WS1-06/04/2021-0.20m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
26.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 26.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				14.4	mg/kg	1.32	15.077	mg/kg	0.00151 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.4	mg/kg	1.142	0.362	mg/kg	0.0000362 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				69.1	mg/kg	1.462	80.09	mg/kg	0.00801 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				41	mg/kg	1.126	36.607	mg/kg	0.00366 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	55	mg/kg	1.56	68.033	mg/kg	0.00436 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				52.8	mg/kg	2.976	124.621	mg/kg	0.0125 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				1	mg/kg	2.554	2.025	mg/kg	0.000203 %	✓	
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				213	mg/kg	2.774	468.591	mg/kg	0.0469 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		7.75 pH		7.75 pH	7.75 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		0.05 mg/kg		0.0397 mg/kg	0.00000397 %	✓	
18	acenaphthylene	205-917-1	208-96-8		0.06 mg/kg		0.0476 mg/kg	0.00000476 %	✓	
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.0397 mg/kg	0.00000397 %	✓	
21	phenanthrene	201-581-5	85-01-8		0.72 mg/kg		0.571 mg/kg	0.0000571 %	✓	
22	anthracene	204-371-1	120-12-7		0.2 mg/kg		0.159 mg/kg	0.0000159 %	✓	
23	fluoranthene	205-912-4	206-44-0		2.42 mg/kg		1.919 mg/kg	0.000192 %	✓	
24	pyrene	204-927-3	129-00-0		2.06 mg/kg		1.634 mg/kg	0.000163 %	✓	
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		1.36 mg/kg		1.079 mg/kg	0.000108 %	✓	
26	chrysene 601-048-00-0	205-923-4	218-01-9		1.41 mg/kg		1.118 mg/kg	0.000112 %	✓	
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		2.05 mg/kg		1.626 mg/kg	0.000163 %	✓	
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.8 mg/kg		0.634 mg/kg	0.0000634 %	✓	
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		1.56 mg/kg		1.237 mg/kg	0.000124 %	✓	
30	indeno[123-cd]pyrene 205-893-2		193-39-5		1.12 mg/kg		0.888 mg/kg	0.0000888 %	✓	
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.23 mg/kg		0.182 mg/kg	0.0000182 %	✓	
32	benzo[ghi]perylene 205-883-8		191-24-2		1.05 mg/kg		0.833 mg/kg	0.0000833 %	✓	
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		300 mg/kg	3.211	763.994 mg/kg	0.0764 %	✓	
34	Total TPH		GTC05C40ALAR		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.16 %		

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)
- Determinand defined by classifier (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: WS4-06/04/2021-1.80m

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

Sample details

Sample Name:	LoW Code:
WS4-06/04/2021-1.80m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				10.3	mg/kg	1.32	11.515	mg/kg	0.00115 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				46.2	mg/kg	1.462	57.175	mg/kg	0.00572 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	24.787	mg/kg	0.00248 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	19	mg/kg	1.56	25.094	mg/kg	0.00161 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				38.8	mg/kg	2.976	97.781	mg/kg	0.00978 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				70	mg/kg	2.774	164.429	mg/kg	0.0164 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
16	pH		PH		8.65 pH		8.65 pH	8.65 pH			
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %			<LOD
Total:									0.0428 %		

Key

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

Classification of sample: WS6-06/04/2021-0.10m

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

Sample details

Sample Name:	LoW Code:
WS6-06/04/2021-0.10m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				10	mg/kg	1.32	11.189	mg/kg	0.00112 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				47.4	mg/kg	1.462	58.71	mg/kg	0.00587 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				23	mg/kg	1.126	21.945	mg/kg	0.00219 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	14	mg/kg	1.56	18.506	mg/kg	0.00119 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				39.4	mg/kg	2.976	99.377	mg/kg	0.00994 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				66	mg/kg	2.774	155.164	mg/kg	0.0155 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.76 pH		8.76 pH	8.76 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
34	ethylene dinitrate; ethylene glycol dinitrate 603-032-00-9	211-063-0	628-96-6		<		<	<		ND
35	N-methyl-N-2,4,6-tetranitroaniline; tetryl 612-017-00-6	207-531-9	479-45-8		<		<	<		ND
36	glycerol trinitrate; nitroglycerine 603-034-00-X	200-240-8	55-63-0		<		<	<		ND
37	2,4,6-trinitrotoluene; TNT 609-008-00-4	204-289-6	118-96-7		<		<	<		ND
38	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<		<	<		ND
39	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<		<	<		ND
40	pentaerythritol tetranitrate; P.E.T.N. 603-035-00-5	201-084-3	78-11-5		<		<	<		ND
41	2,4,6-trinitrophenol; picric acid 609-009-00-X	201-865-9	88-89-1		<		<	<		ND
Total:								0.0414 %		



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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: CP1-09/04/2021-0.80m

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

Sample details

Sample Name:	LoW Code:	
CP1-09/04/2021-0.80m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:		
27.1%	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 27.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number					
1	arsenic { arsenic trioxide }							
	033-003-00-0	215-481-4	1327-53-3					
2	cadmium { cadmium oxide }							
	048-002-00-0	215-146-2	1306-19-0					
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }							
		215-160-9	1308-38-9					
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }							
	024-017-00-8							
5	copper { dicopper oxide; copper (I) oxide }							
	029-002-00-X	215-270-7	1317-39-1					
6	lead { lead chromate }							
	082-004-00-2	231-846-0	7758-97-6					
7	mercury { mercury dichloride }							
	080-010-00-X	231-299-8	7487-94-7					
8	nickel { nickel chromate }							
	028-035-00-7	238-766-5	14721-18-7					
9	selenium { nickel selenate }							
	028-031-00-5	239-125-2	15060-62-5					
10	zinc { zinc chromate }							
	024-007-00-3	236-878-9	13530-65-9					
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane							
	603-181-00-X	216-653-1	1634-04-4					
12	benzene							
	601-020-00-8	200-753-7	71-43-2					
13	toluene							
	601-021-00-3	203-625-9	108-88-3					
14	ethylbenzene							
	601-023-00-4	202-849-4	100-41-4					

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
16	pH				8.07	pH		8.07	pH	8.07 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		0.1	mg/kg		0.0787	mg/kg	0.00000787 %	✓	
22	anthracene	204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		0.17	mg/kg		0.134	mg/kg	0.0000134 %	✓	
24	pyrene	204-927-3	129-00-0		0.14	mg/kg		0.11	mg/kg	0.000011 %	✓	
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		0.09	mg/kg		0.0708	mg/kg	0.00000708 %	✓	
26	chrysene 601-048-00-0	205-923-4	218-01-9		0.08	mg/kg		0.0629	mg/kg	0.00000629 %	✓	
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.1	mg/kg		0.0787	mg/kg	0.00000787 %	✓	
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0315	mg/kg	0.00000315 %	✓	
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.08	mg/kg		0.0629	mg/kg	0.00000629 %	✓	
30	indeno[123-cd]pyrene 205-893-2	193-39-5			0.05	mg/kg		0.0393	mg/kg	0.00000393 %	✓	
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8	191-24-2			0.05	mg/kg		0.0393	mg/kg	0.00000393 %	✓	
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		400	mg/kg	3.211	1010.644	mg/kg	0.101 %	✓	
34	Total TPH		GTC05C40ALAR		<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
Total:										0.142 %		

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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS3-06/04/2021-0.20m

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

Sample details

Sample Name:	LoW Code:	
WS3-06/04/2021-0.20m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:		
27.8%	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 27.8% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				11.8 mg/kg	1.32	12.191 mg/kg	0.00122 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				53.3 mg/kg	1.462	60.955 mg/kg	0.0061 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
	024-017-00-8									
5	copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	14.096 mg/kg	0.00141 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	39 mg/kg	1.56	47.6 mg/kg	0.00305 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				31.8 mg/kg	2.976	74.057 mg/kg	0.00741 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { nickel selenate }				1 mg/kg	2.554	1.998 mg/kg	0.0002 %	✓	
	028-031-00-5	239-125-2	15060-62-5							
10	zinc { zinc chromate }				77 mg/kg	2.774	167.143 mg/kg	0.0167 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
12	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
13	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
14	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value		MC Applied	Conc. Not Used						
		CLP index number	EC Number	CAS Number																
15		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD							
	601-022-00-9	202-422-2 [1]	95-47-6 [1]																	
		203-396-5 [2]	106-42-3 [2]																	
		203-576-3 [3]	108-38-3 [3]																	
16	●	pH				7.11	pH		7.11	pH	7.11 pH									
				PH																
		naphthalene												<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD
	601-052-00-2	202-049-5	91-20-3																	
18	●	acenaphthylene			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %	<LOD									
		205-917-1	208-96-8																	
19	●	acenaphthene			<0.05	mg/kg		<0.05	mg/kg	<0.000005 %	<LOD									
			201-469-6	83-32-9																
20	●	fluorene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
			201-695-5	86-73-7																
21	●	phenanthrene			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %	<LOD									
			201-581-5	85-01-8																
22	●	anthracene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
			204-371-1	120-12-7																
23	●	fluoranthene			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %	<LOD									
			205-912-4	206-44-0																
24	●	pyrene			<0.03	mg/kg		<0.03	mg/kg	<0.000003 %	<LOD									
			204-927-3	129-00-0																
25		benzo[a]anthracene			<0.06	mg/kg		<0.06	mg/kg	<0.000006 %	<LOD									
		601-033-00-9	200-280-6	56-55-3																
26		chrysene			<0.02	mg/kg		<0.02	mg/kg	<0.000002 %	<LOD									
		601-048-00-0	205-923-4	218-01-9																
27		benzo[b]fluoranthene			<0.05	mg/kg		<0.05	mg/kg	<0.000005 %	<LOD									
		601-034-00-4	205-911-9	205-99-2																
28		benzo[k]fluoranthene			<0.02	mg/kg		<0.02	mg/kg	<0.000002 %	<LOD									
		601-036-00-5	205-916-6	207-08-9																
29		benzo[a]pyrene; benzo[def]chrysene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
		601-032-00-3	200-028-5	50-32-8																
30	●	indeno[123-cd]pyrene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
			205-893-2	193-39-5																
31		dibenz[a,h]anthracene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
		601-041-00-2	200-181-8	53-70-3																
32	●	benzo[ghi]perylene			<0.04	mg/kg		<0.04	mg/kg	<0.000004 %	<LOD									
			205-883-8	191-24-2																
33	●	polychlorobiphenyls; PCB			<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %	<LOD									
		602-039-00-4	215-648-1	1336-36-3																
34	🧑	Total TPH			<52	mg/kg		<52	mg/kg	<0.0052 %	<LOD									
				GTC05C40ALAR																
35		ethylene dinitrate; ethylene glycol dinitrate			<			<		<	ND									
		603-032-00-9	211-063-0	628-96-6																
36		N-methyl-N-2,4,6-tetranitroaniline; tetryl			<			<		<	ND									
		612-017-00-6	207-531-9	479-45-8																
37		glycerol trinitrate; nitroglycerine			<			<		<	ND									
		603-034-00-X	200-240-8	55-63-0																
38		2,4,6-trinitrotoluene; TNT			<			<		<	ND									
		609-008-00-4	204-289-6	118-96-7																
39		2,6-dinitrotoluene			<			<		<	ND									
		609-049-00-8	210-106-0	606-20-2																
40		2,4-dinitrotoluene; [1] dinitrotoluene [2]			<			<		<	ND									
		609-007-00-9	204-450-0 [1]	121-14-2 [1]																
41		pentaerythritol tetranitrate; P.E.T.N.			<			<		<	ND									
		603-035-00-5	201-084-3	78-11-5																
42		2,4,6-trinitrophenol; picric acid			<			<		<	ND									
		609-009-00-X	201-865-9	88-89-1																

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
43	■ coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
		205-881-7	191-07-1							
Total:								0.0415 %		

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)
■	Determinand defined by classifier (see Appendix A)
■	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **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

 Total TPH (CAS Number: GTC05C40ALAR)

Description/Comments:

Data source:

Data source date: 24 Feb 2021

Hazard Statements: None.

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

CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

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

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

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

• **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases;

SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2 H371

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

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

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

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

selenium {nickel selenate}

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

zinc {zinc chromate}

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

sulfur {sulphur dichloride}

Assumed worst case compound

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**

HazWasteOnline Classification Engine Version: 2021.117.4756.9097 (27 Apr 2021)

HazWasteOnline Database: 2021.117.4756.9097 (27 Apr 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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

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

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

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

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

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

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

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

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2019 - UK: 2019 No. 720 of 27th March 2019

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019

Waste Classification Report



MV7JC-DXNCV-73RZQ

Job name

EMT-21-5291-Batch-2-File-2

Description/Comments

Project

TE1456

Site

Net World Sports, Wrexham Industrial Estate

Related Documents

#	Name	Description
1	EMT-21-5291-Batch-2-File-2.HWOL	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:
Jessica Rogers

Date:
28 Apr 2021 11:45 GMT
Telephone:
01925 818388

Company:
Tier Environmental
Chadwick house
Warrington Road,

HazWasteOnline™ Training Record:

Course	Date
Hazardous Waste Classification	-
Advanced Hazardous Waste Classification	-

Report

Created by: Jessica Rogers

Created date: 28 Apr 2021 11:45 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	HDP1-10/04/2021-0.05m		Non Hazardous		2
2	HDP2-10/04/2021-0.10m		Non Hazardous		4
3	HDP4-10/04/2021-0.15m		Non Hazardous		6
4	HDP6-10/04/2021-0.60m		Non Hazardous		8
5	CP2-09/04/2021-1.40m		Non Hazardous		10
6	CP3-10/04/2021-2.90m		Non Hazardous		12

Appendices

Appendix A: Classifier defined and non CLP determinands

Appendix B: Rationale for selection of metal species

Appendix C: Version

Page

14

15

16

Classification of sample: HDP1-10/04/2021-0.05m

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

Sample details

Sample Name:	LoW Code:
HDP1-10/04/2021-0.05m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
42.4%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 42.4% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				11	mg/kg	1.32	10.199	mg/kg	0.00102 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.2	mg/kg	1.142	0.16	mg/kg	0.000016 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				64.7	mg/kg	1.462	66.406	mg/kg	0.00664 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				21	mg/kg	1.126	16.604	mg/kg	0.00166 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	65	mg/kg	1.56	71.199	mg/kg	0.00456 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				30.8	mg/kg	2.976	64.374	mg/kg	0.00644 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				92	mg/kg	2.774	179.229	mg/kg	0.0179 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
16	pH		PH		7.14 pH		7.14 pH	7.14 pH			
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		600 mg/kg	3.211	1353.085 mg/kg	0.135 %		✓	
34	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %			<LOD
Total:									0.179 %		

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)
•	Determinand defined by classifier (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Classification of sample: HDP2-10/04/2021-0.10m

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

Sample details

Sample Name:	LoW Code:
HDP2-10/04/2021-0.10m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
42%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 42% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				10.8 mg/kg	1.32	10.042 mg/kg	0.001 %		✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.2 mg/kg	1.142	0.161 mg/kg	0.0000161 %		✓	
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				60 mg/kg	1.462	61.756 mg/kg	0.00618 %		✓	
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %			<LOD
	024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	12.686 mg/kg	0.00127 %		✓	
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	71 mg/kg	1.56	77.991 mg/kg	0.005 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				29 mg/kg	2.976	60.783 mg/kg	0.00608 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc chromate }				86 mg/kg	2.774	168.012 mg/kg	0.0168 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
12	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
13	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
14	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
16	pH		PH		6.49 pH		6.49 pH	6.49 pH			
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
33	polychlorobiphenyls; PCB 602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
34	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %			<LOD
35	coronene 205-881-7		191-07-1		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
Total:									0.042 %		

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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: HDP4-10/04/2021-0.15m

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

Sample details

Sample Name:	LoW Code:
HDP4-10/04/2021-0.15m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
37.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 37.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				10.4	mg/kg	1.32	10.016	mg/kg	0.001 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.2	mg/kg	1.142	0.167	mg/kg	0.0000167 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				55.4	mg/kg	1.462	59.059	mg/kg	0.00591 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				17	mg/kg	1.126	13.961	mg/kg	0.0014 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	71	mg/kg	1.56	80.778	mg/kg	0.00518 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				29.6	mg/kg	2.976	64.258	mg/kg	0.00643 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				1	mg/kg	2.554	1.863	mg/kg	0.000186 %	✓	
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				88	mg/kg	2.774	178.063	mg/kg	0.0178 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
16	pH		PH		5.97 pH		5.97 pH	5.97 pH			
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
33	sulfur { sulphur dichloride } 016-013-00-X	234-129-0	10545-99-0		600 mg/kg	3.211	1405.392 mg/kg	0.141 %	✓		
34	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %			<LOD
Total:									0.184 %		

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)
•	Determinand defined by classifier (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Classification of sample: HDP6-10/04/2021-0.60m

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

Sample details

Sample Name:	LoW Code:
HDP6-10/04/2021-0.60m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18.1%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				8.6 mg/kg	1.32	9.615 mg/kg	0.000961 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				45 mg/kg	1.462	55.69 mg/kg	0.00557 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %			<LOD
	024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				25 mg/kg	1.126	23.833 mg/kg	0.00238 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	31 mg/kg	1.56	40.943 mg/kg	0.00262 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				43.6 mg/kg	2.976	109.877 mg/kg	0.011 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
10	zinc { zinc chromate }				78 mg/kg	2.774	183.221 mg/kg	0.0183 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
11	pH				8.36 pH		8.36 pH	8.36 pH			
12	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
14	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
15	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
16	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
27	benzo[ghi]perylene	205-883-8	191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
Total:								0.0413 %		

Key

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

Classification of sample: CP2-09/04/2021-1.40m

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

Sample details

Sample Name:	LoW Code:
CP2-09/04/2021-1.40m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
29%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 29% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				10.4	mg/kg	1.32	10.644	mg/kg	0.00106 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				48.2	mg/kg	1.462	54.61	mg/kg	0.00546 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	22.692	mg/kg	0.00227 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	27	mg/kg	1.56	32.647	mg/kg	0.00209 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				42.8	mg/kg	2.976	98.747	mg/kg	0.00987 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				76	mg/kg	2.774	163.438	mg/kg	0.0163 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
14	ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.76 pH		8.76 pH	8.76 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.0427 %		

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)
	Determinand defined by classifier (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Classification of sample: CP3-10/04/2021-2.90m

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

Sample details

Sample Name:	LoW Code:
CP3-10/04/2021-2.90m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
23.4%	Entry:
(dry weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 23.4% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				8.5	mg/kg	1.32	9.095	mg/kg	0.000909 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				44.6	mg/kg	1.462	52.824	mg/kg	0.00528 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8											
5		copper { dicopper oxide; copper (I) oxide }				22	mg/kg	1.126	20.073	mg/kg	0.00201 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	33	mg/kg	1.56	41.713	mg/kg	0.00267 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				39.1	mg/kg	2.976	94.305	mg/kg	0.00943 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
10		zinc { zinc chromate }				76	mg/kg	2.774	170.855	mg/kg	0.0171 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
16	pH		PH		8.13 pH		8.13 pH	8.13 pH		
17	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
18	acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
19	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
21	phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
22	anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
23	fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
24	pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
25	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
26	chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
30	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
31	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
32	benzo[ghi]perylene 205-883-8		191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
33	Total TPH GTC05C40ALAR				<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
Total:								0.043 %		

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)
•	Determinand defined by classifier (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1 Only the metal concentration has been used for classification	

Appendix A: Classifier defined and non CLP determinands

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **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

 Total TPH (CAS Number: GTC05C40ALAR)

Description/Comments:

Data source:

Data source date: 24 Feb 2021

Hazard Statements: None.

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

CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

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

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

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

▪ **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases;

SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2 H371

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

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

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

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

selenium {nickel selenate}

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

zinc {zinc chromate}

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

sulfur {sulphur dichloride}

Assumed worst case compound

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.1, May 2018**

HazWasteOnline Classification Engine Version: 2021.117.4756.9097 (27 Apr 2021)

HazWasteOnline Database: 2021.117.4756.9097 (27 Apr 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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

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

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

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

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

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

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

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

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2019 - UK: 2019 No. 720 of 27th March 2019

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019

APPENDIX D - GEOTECHNICAL IN SITU FIELDWORK AND LABORATORY RESULTS



TEST REPORT

Client Tier Environmental Ltd

Address Suite 513, Chadwick House
Warrington Road
Birchwood Park
WA3 6AE

Contract TE1456 –
Net World Sports, Wrexham

Job Number MRN 4144/19
Date of Issue 28 April 2021
Page 1 of 14

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. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.





TEST CERTIFICATE
MOISTURE CONTENT DETERMINATION
BS 1377 : PART 2 : 1990 (OVEN DRY)

CLIENT	Tier Environmental Ltd
SITE	TE1456 – Net World Sports, Wrexham
JOB NUMBER	MRN 4144/19

DATE SAMPLED	Not advised	SAMPLED BY	Client
DATE TESTED	22 April 2021	DATE RECEIVED	23 March 2021

Sample No	Site Reference	Material	Sample Location	Moisture Content %
97925	WS3 SPT 2	Stiff brown silty sandy CLAY	As site reference	20
97932	WS6 SPT 4	Stiff brown silty sandy CLAY	As site reference	21
97919	WS1 SPT 3	Stiff brown silty sandy CLAY	As site reference	18
97888	CP1 D 0.4	Firm to stiff brown silty sandy CLAY with rare gravel	As site reference	27
97900	CP2 1.5	Stiff brown silty sandy CLAY	As site reference	20
97913	CP3 SPT 4.3	Stiff brown silty sandy CLAY	As site reference	18
97924	WS3 SPT 1.2	Stiff brown silty sandy CLAY	As site reference	18
97927	WS4 SPT 2	Stiff brown silty sandy CLAY	As site reference	19
97922	WS2 SPT 2	Stiff brown silty sandy CLAY	As site reference	14

REMARKS

SIGNED 

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

DATE 28 April 2021

MURRAY RIX

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



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

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

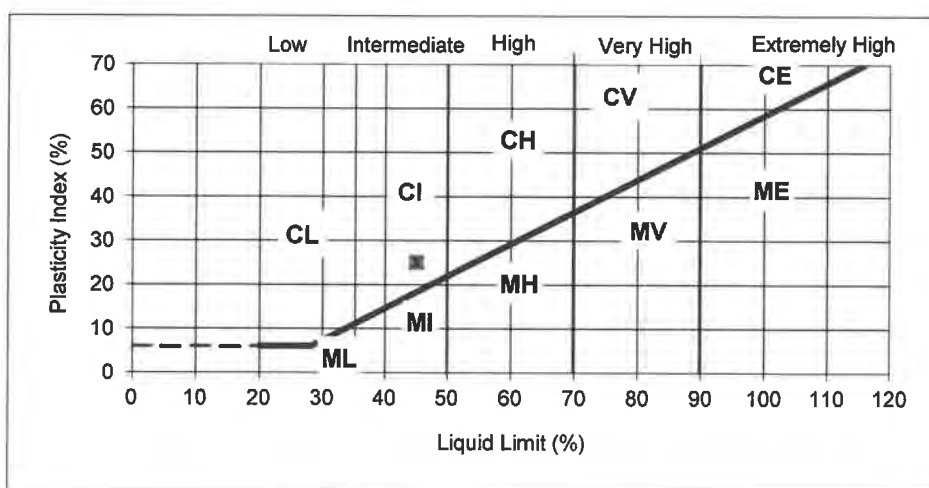
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Tier Environmental Ltd
SITE	TE1456 - Net world Sports, Wrexham
JOB NUMBER	MRN 4144/19

SAMPLE LABEL	WS3 SPT 2	DATE SAMPLED	Not advised
SAMPLE No.	97925	DATE RECEIVED	14-Apr-21
DATE TESTED	16-Apr-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20	45	20	25	100



REMARKS

Sample tested after wet sieving

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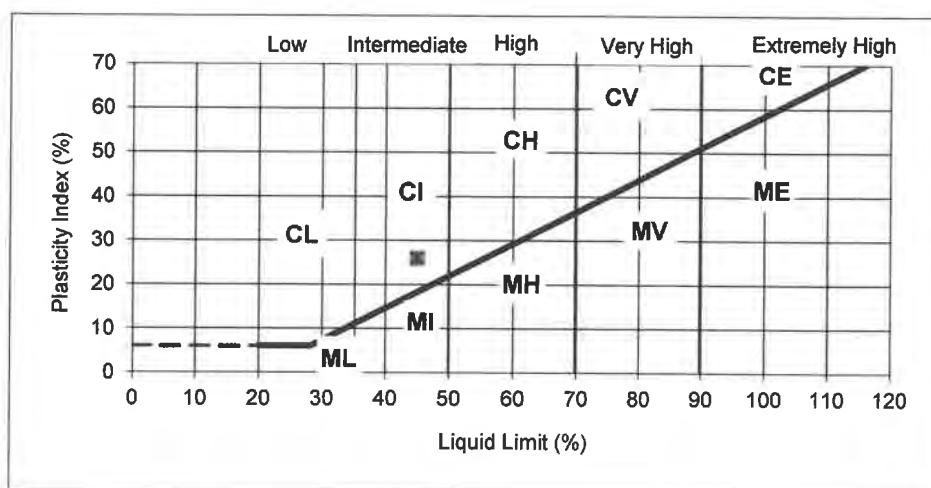
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Tier Environmental Ltd
SITE	TE1456 - Net world Sports, Wrexham
JOB NUMBER	MRN 4144/19

SAMPLE LABEL	WS6 SPT 4	DATE SAMPLED	Not advised
SAMPLE No.	97932	DATE RECEIVED	14-Apr-21
DATE TESTED	16-Apr-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21	45	19	26	100



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LIQUID AND PLASTIC LIMIT

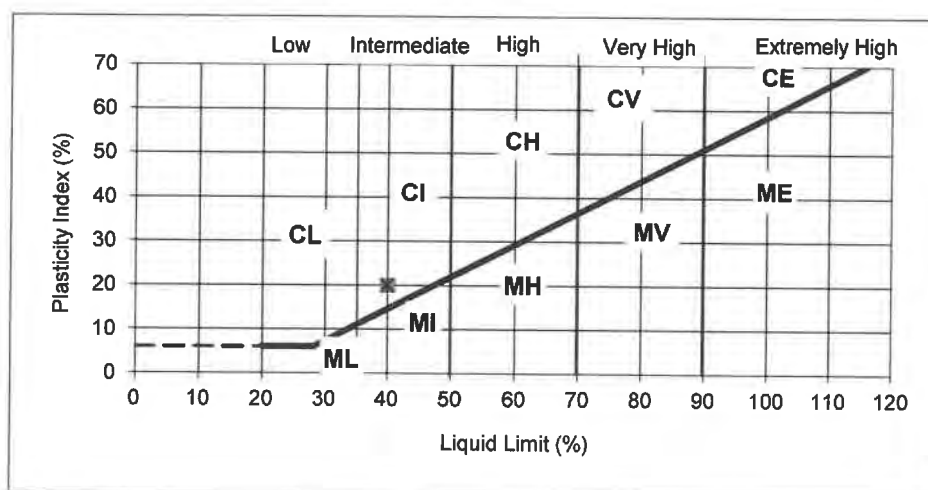
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Tier Environmental Ltd
SITE	TE1456 - Net world Sports, Wrexham
JOB NUMBER	MRN 4144/19

SAMPLE LABEL	CP1 D 0.4	DATE SAMPLED	Not advised
SAMPLE No.	97888	DATE RECEIVED	14-Apr-21
DATE TESTED	16-Apr-21	SAMPLED BY	Client

MATERIAL	Firm to stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
27	40	20	20	92



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LIQUID AND PLASTIC LIMIT

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

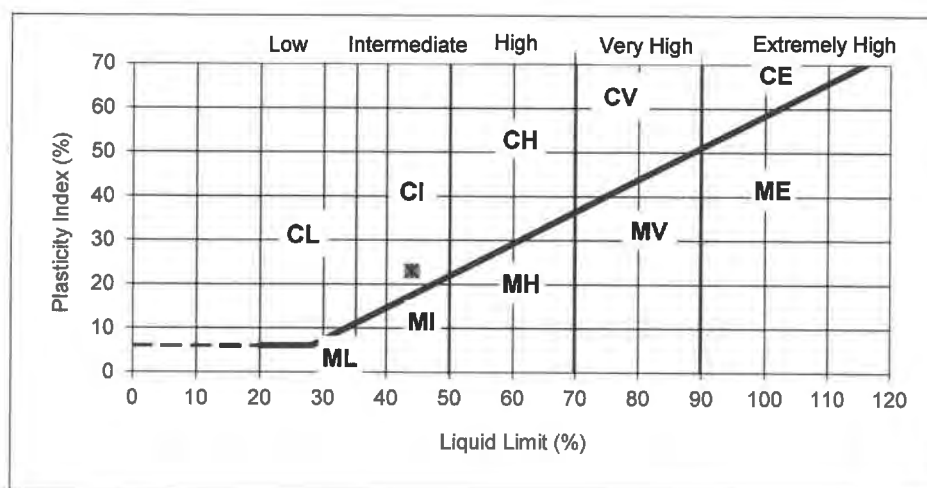
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Tier Environmental Ltd
SITE	TE1456 - Net world Sports, Wrexham
JOB NUMBER	MRN 4144/19

SAMPLE LABEL	CP2 B 5	DATE SAMPLED	Not advised
SAMPLE No.	97936	DATE RECEIVED	14-Apr-21
DATE TESTED	16-Apr-21	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20	44	21	23	100



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