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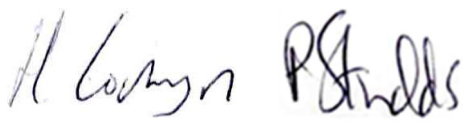
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**ADULT AND OLDER
PERSONS MENTAL
HEALTH UNIT – GLAN
CLWYD HOSPITAL
PHASE II
ENVIRONMENTAL SITE
INVESTIGATION**

**ADULT AND OLDER PERSONS MENTAL HEALTH UNIT –
GLAN CLWYD HOSPITAL
PHASE II ENVIRONMENTAL SITE INVESTIGATION**

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1. INTRODUCTION

1.1 Brief

Ramboll UK Limited (Ramboll) has been commissioned by BAM Construction Ltd to produce an Interpretative ground contamination report in support of the proposed redevelopment in two areas of the existing Glan Clwyd Hospital site.

This report provides an assessment of risks associated with ground contamination. This report does not cover any issues other than those relating to contaminated land. For example, no geotechnical, ecological or archaeological studies are included in the scope of this report.

1.2 Previous Reports

Ramboll has produced a contaminated land desk study, reported in:

- Ramboll, 2021. Phase I Contaminated Land and Geotechnical Desk Study Assessment (Ref. AOPMHU-RAM-77-XX-RP-Y-08302, July 2021).

The preliminary risk assessment undertaken within the 2021 desk study provided the basis for development of a ground investigation.

The ground investigation was completed by Ian Farmer Ltd in March 2022 to provide data on the ground conditions and quantify any ground contamination impacts in soils and groundwater / surface water at the site. A Factual Report was provided to Ramboll, which should be read in conjunction with this report:

- Ian Farmer (1998) Associates, 2022. Factual Report on Ground Investigation – Glan Clwyd Hospital. (Contract No: 2230534, March 2022)

This report presents the objectives, scope, findings and conclusions of the Site Investigation. The assessment was undertaken in connection with the proposed redevelopment of two parts of the site.

1.3 Proposed Development

There are two areas within the existing hospital boundary which are to be developed. They are detailed below:

- *AOPMHU (Adults and Older People Mental Health Unit) site* – Located in the northwest corner of the hospital site which is currently used predominantly for car parking. The proposed development comprises a new multistorey mental health treatment building with inpatient, outpatient and emergency facilities and
- *Multi-storey car park site* – Located in the northeast corner of the hospital site which is currently a single level car park. The proposed development will be the construction of a new multi storey car park to replace parking spaces lost as a result of the AOPMHU proposed development.

See figure 2 in Section 2 for site layout plan.

1.4 Objectives

The objective of this report is to identify potential contaminated land risks and constraints associated with the ground conditions in the context of the proposed development, in accordance with current relevant legislation and guidance.

1.5 Scope of Works

The scope of environmental work undertaken was as follows:

- document and interpret the environmental ground conditions encountered during the Ian Farmer (2022) ground investigation;
- assess the potential for risks to both human health and environmental receptors (including controlled waters) based on the data collected to provide a Generic Quantitative Risk Assessment in accordance with current UK guidance;
- present a refined Conceptual Site Model (CSM) and qualitative risk assessment based on the findings of the ground investigation;
- provide comment on soil waste management; and
- assess the requirement for further investigation, assessment and/or remedial measures.

1.6 General Limitations and Reliance

This report has been prepared by Ramboll exclusively for the intended use by the client in accordance with the agreement between Ramboll and BAM Construction Ltd defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

The site investigation works were undertaken during a discrete period of time. The findings and conclusions presented in this report are accordingly factually limited by these circumstances and, unless stated otherwise in the report, are preliminary. The field investigations were restricted to a level of detail necessary to meet the stated objectives of the services. The results of any measurements taken may vary spatially or with time and further confirmatory measurements should be made after any significant period of time has elapsed since the sampling took place. The interpretation of the geological and environmental quality conditions is based on extrapolation from point-source data in a heterogeneous environment. Accordingly, more detailed investigation may be appropriate dependent upon the client objectives.

2. SITE DESCRIPTION

Both proposed development sites are located within the grounds of the Glan Clwyd Hospital in Bodelwyddan, approximately 6km south of Rhyl Town Centre, at National Grid Reference SJ 00199 75822.

The site location is shown on Figure 1 and site layout on Figure 2 below.

AOPMHU site

The site is located in the northwest corner of the wider hospital site and currently comprises a single level hardstanding car park occupying the full northern portion of the site. There are a number of cabin type single storey units to the east and south of the car park with an area of open soft landscaping in the southeast of the site. An attenuation pond is located immediately west of the proposed development beyond the red line boundary, and a raised area is present in the south-west which is understood to comprise soils from previous developments at the hospital.

Multi-storey car park site

The car park site is currently a single level hardstanding car park located in the north-eastern corner of the wider hospital site, surrounded to the north and east by agricultural land, with hospital buildings adjacent west, and a single level car park to the south.

Further details are provided in the Ramboll 2021 Phase 1 Desk Study.

Figure 1: Site Location

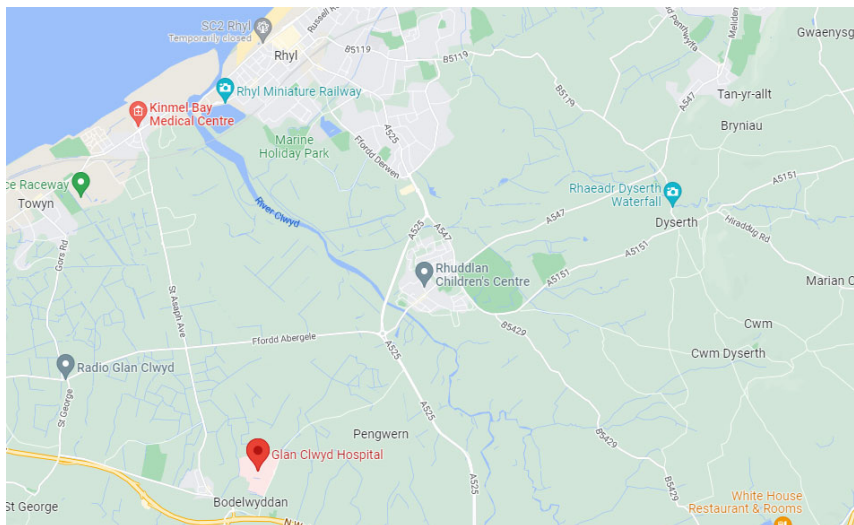


Figure 2: Site Layout Plan



3. SITE INVESTIGATION STRATEGY

3.1 Preliminary Conceptual Site Model

The preliminary conceptual site model is a simplified representation of the environmental conditions, and in the vicinity of the site, and is used to initially identify potentially sensitive receptors and potential pollutant linkages. Information obtained during the environmental site investigation, described in the following sections of this report, is then used to refine and update this preliminary conceptual model.

Table 3.1: Preliminary Conceptual Site Model

<p>Potential Sources of Contamination</p> <p>Onsite</p> <ul style="list-style-type: none"> Potential for Made Ground and localised spills (oils/fuels) from vehicles. <p>Offsite (beyond the Glan Clwyd Hospital boundary)</p> <ul style="list-style-type: none"> Historical 'tank'; Former sewage works; Military camp, industrial estate, an unspecified factory, depots and tanks; Lead mining. 			
<p>Geology</p> <p>The geology of the site is expected to comprise Superficial deposits of Devensian Till overlaying Bedrock of Mudstone, Siltstone and Sandstone of the Warwickshire Group.</p>			
<p>Hydrogeology</p> <p>The Warwickshire Group bedrock underlying the site is classified as a Secondary A Aquifer. The Superficial Deposits have an Aquifer Designation of Secondary Undifferentiated. The site is not situated in an Environment Agency (EA) designated source protection zone (SPZ). There are no active groundwater abstractions for public water supply recorded in environmental database records within a 2km radius of the site. Overall the site is considered to be of low to moderate environmental sensitivity in terms of groundwater.</p>			
<p>Hydrology</p> <p>No surface water features are located within the proposed development areas. No surface water features are located within the proposed development areas. There are however a number of surface water courses located on the wider hospital site including an attenuation pond which contains water year-round. The nearest identified Water Framework Directive Surface water body is the River Gele which is located over 2km north of the site. The EA classifies the River Gele as 'moderate' ecological rating and 'good' chemical rating under the Water Framework Directive classification scheme. There is one (1) surface water abstraction within 2km of the site, located 1.86km east for spray irrigation. According to the EA, the site is located in Flood Zone 1 (low probability). This zone comprises land assessed as having a less than 1 in 1000 annual probability of river flooding (<0.1% in any year).</p>			
<p>Potential Receptors to Contamination (if Present)</p>			<p>Receptor Present?</p>
<p>Human Health</p>	<p>On-site</p>	<p>The site will likely be redeveloped to remain a commercial end-use.</p>	<p>Yes</p>
	<p>Off-site</p>	<p>Residential housing located adjacent south-west of the site.</p>	<p>Yes</p>
<p>Water Environment</p>	<p>On-site</p>	<p>Groundwater is expected to be present in the underlying Warwickshire Group bedrock underlying the site.</p>	<p>Yes</p>
	<p>Off-site</p>	<p>Groundwater: Bedrock of the Warwickshire Group classified as Secondary A Aquifer.</p>	<p>Yes</p>

		Surface Water: The nearest surface watercourse (River Gele) is over 2km north of the site.	No
Ecological Receptors	On-site	There are no statutory designated ecologically sensitive sites present on-site.	No
	Off-site	There is one (1) area of Designated Ancient Woodland between 250-500m from site and one (1) Local Nature Reserve within 2km of the site.	Yes
Built Environment	On-site	The proposed site use is for continued commercial use.	Yes

The site investigation strategy was designed to assess the key potential contamination sources and potential pollutant linkages identified in the preliminary conceptual site model. The following sections describe the site investigation strategy, the results of laboratory chemical analysis and a qualitative source-pathway-receptor risk assessment; the revised conceptual model is then presented in section 8.

3.2 Site Investigation Works

The intrusive site investigation was undertaken between the 12th and 14th October 2021 by Ian Farmer Associates Limited.

3.2.1 Summary of Intrusive Works

A summary of the scope of the investigation undertaken at the site is presented in Table 3.2 below. Exploratory borehole/trial pit locations and Borehole logs (including monitoring well details) are provided within the Factual Report which is included within Appendix 1.

Table 3.2: Summary of Intrusive Works

Item	No.	Comments
Utilities Clearance Survey	Item	A Cable Avoidance Tool (CAT) survey was undertaken at each exploratory hole location prior to excavation. At the location of boreholes an inspection pit was excavated by hand to a depth of 1.2mbgl to check for buried services.
Windowless Sample Boreholes	10	Nine (9) windowless sample boreholes (WS101 to WS110 excluding WS107) were advanced to a maximum depth of 5.45m bgl. WS107 was terminated at 0.1mbgl due to water ingress and close proximity of buried services. Monitoring wells were installed for ground gas/groundwater monitoring in all boreholes excluding WS107. The well installation designs are detailed within the borehole logs presented in the Factual Report within Appendix 1.
Machine excavated trial Pit	1	A JCB 3CX or similar was used to excavate one (1) trial pit to a maximum depth of 3.5m bgl to assess ground conditions. The pit was backfilled with arisings following completion.
Hand excavated trial pits	2	Hand tools were used to excavate two (2) shallow trial pits to a maximum depth of 1.2m bgl to assess ground conditions. The pits were backfilled with arisings following completion.

Item	No.	Comments
Soil Sampling and Analysis	32	<p>During the site investigation, soil samples were recovered from each exploratory hole location and screened on-site using a handheld photo-ionisation detector (PID) for the presence of volatile organic compounds.</p> <p>Up to three (3) soil samples were collected from each sampling location and submitted for selected laboratory analysis. Selected soil samples were analysed for a predetermined suite of contaminants (See section 3.4), designed to be reflective of the site's historic uses.</p> <p>Five (5) samples were testing for Waste Acceptance Criteria (WAC).</p>
Groundwater Sampling and Analysis	6	<p>Groundwater was encountered and sampled in six (6) of the nine (9) installed windowless sample monitoring wells. An oil/water interface probe was used to check for free-phase hydrocarbons and resting groundwater levels were monitored. The six (6) groundwater samples were analysed for a suite of contaminants designed to be reflective of the site's historic uses.</p>
Gas Monitoring Rounds	6	<p>A total of six (6) ground gas monitoring rounds were undertaken on all installed boreholes using a portable gas analyser.</p>

3.2.2 Sample Location Rationale

The rationale for positioning the sampling locations is described in Table 3.3 below.

Table 3.3: Exploratory Hole Rationale

Exploratory Hole	Rationale	Depth achieved (m bgl)	Installed as Monitoring Well?
WS101	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	5.45m	Yes
WS102	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	5.45m	Yes
WS103	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	5.45m	Yes
WS104	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	5.45m	Yes
WS105	To determine shallow soil conditions, and understand the gas and shallow groundwater regime in the northeast of Plot B.	5.45m	Yes
WS106	To determine shallow soil conditions, and understand the shallow groundwater regime in the west of Plot B.	5.45m	Yes
WS107	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	0.10m	No
WS108	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	3.45m	Yes

Exploratory Hole	Rationale	Depth achieved (m bgl)	Installed as Monitoring Well?
WS109	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	2.45m	Yes
WS110	To determine shallow soil conditions and understand the shallow groundwater and gas regime.	2.95m	Yes
TP101 (hand excavated)	To determine shallow soil conditions in the west of the site to provide general coverage.	1.20m	No
TP102 (hand excavated)	To determine shallow soil conditions in the west of the site to provide general coverage.	1.20m	No
TP104 (machine excavated)	To determine shallow soil conditions in the west of the site to provide general coverage.	3.50m	No

3.3 Sampling and Monitoring

3.3.1 Soil Samples

Soil samples were recovered from each of the exploratory locations at regular intervals and/or changes of strata. Samples were collected in accordance with BS 10175:2011+A1:2013 and were stored within appropriate sample containers and forwarded to an independent MCERTS accredited analytical laboratory (Envirolab). Selected samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation.

Selected soil samples were tested on-site for the presence of volatile organic compounds (VOCs) using a photo-ionisation detector (PID). The PID screens for a wide range of VOCs but does not indicate a specific compound; therefore, the results of the PID screening provide a semi-quantitative indication of the concentration of VOCs present in soil pore spaces. The results of the PID screening are included within the borehole logs in the Factual Report in Appendix 1.

3.3.2 Groundwater Samples

Groundwater sampling was undertaken by Ian Farmer Associates Limited on 25th January 2022. Prior to sampling, the depth to the resting groundwater level (where present) and base of the monitoring wells were measured using an electronic interface probe. The wells were then purged of more than three times the well volume prior to groundwater sampling. Purging and sampling was undertaken using a dedicated inert disposable bailer to prevent cross contamination as per instructed by the Ramboll specification document.

The recovered samples were placed in containers supplied by the laboratory appropriate to the type of analysis being undertaken and stored in cool boxes with ice packs. All samples were dispatched accompanied by chain of custody documentation to (Envirolab) for analysis.

3.3.3 Ground Gas Monitoring

A programme of gas monitoring was undertaken by Ian Farmer Associates comprising six (6) monitoring visits undertaken between the 19th October 2021 and 14th February 2022. The

monitoring was undertaken during periods of low, moderate and high pressure. The following parameters were monitored:

- Methane (% vol);
- Carbon dioxide (% vol);
- Oxygen (% vol);
- Carbon Monoxide (ppm);
- Hydrogen Sulphide (ppm); and
- Flow rate (l/hr).

Gas flow rates were measured at all monitoring boreholes until a steady state was reached. The results of the ground gas monitoring are discussed in section 7.

3.4 Laboratory Analysis

3.4.1 Analytical Rationale

Table 3.4 summarises the analytical schedule for soil and groundwater samples together with the rationale for analysis.

Table 3.4: Summary of Analytical Strategy

Analytical Suite	Rationale	No. of soil samples submitted	No. of groundwater samples submitted
<p>Soils Suite E – Arsenic, antimony, barium, boron, cadmium, chromium (trivalent and hexavalent), copper, lead, mercury, nickel, zinc, selenium, vanadium, ph, water soluble sulphate, total organic carbon, PAH – USEPA 16 suite, and speciated TPH CWG.</p> <p>Groundwater Suite F – as suite E plus ammoniacal nitrogen, electrical conductivity, hardness and sulphate.</p>	Typically associated with brownfield sites, Made Ground, and with fuels and oils.	32	6
Asbestos Screen	Commonly associated with Made Ground.	32	N/A
Waste Acceptance Criteria (WAC)	To ascertain disposal options for removal of site materials	5	N/A

3.4.2 Data Quality Assurance

The laboratory selected to perform the analysis is accredited by UKAS to ISO 17025 and MCerts standards. Internal quality assurance checks are carried out by the laboratory data prior to the laboratory certificates being issued.

4. FIELD OBSERVATIONS

4.1 Ground Conditions

The borehole logs included within the Factual Report have been used to summarise ground conditions in Tables 4.1 and 4.2 below. The information provided below is a summary of the windowless samples and trial pits from each of the two sites. The AOPMHU site includes WS101 – WS105 and TP101, 102 and 104. The multi-storey car park site includes WS106 – WS110. A full lithological description is recorded on the logs, which are provided within the Factual Report in Appendix 1

Table 4.1: Summary of Ground Conditions - AOPMHU site

Strata	Description	Depth to Base (m bgl)	Approx. Ave. Thickness (where encountered) (m)
Made Ground (ground cover)	Tarmacadam was encountered in WS102, 103 and 104 to a maximum thickness of 0.15m. Decorative slate chippings was observed in WS101 to a thickness of 0.15m.	0.1 – 0.15	0.15
Made Ground	Made Ground was present generally to depths of between 0.45 – 2.10m comprising clay, gravel and sand. Gravels were a mix of brick, slate, flint, concrete, quartzile, limestone, mudstone with locally observed plastic, tile and wood in WS103.	0.45 – 2.10	1.2
Superficial deposits	Underlying the Made Ground is a subsoil predominantly comprising brown sandy gravelly CLAY. Gravel of sandstone, mudstone and quartzile.	3.50 - 5.45	>5

Table 4.2: Summary of Ground Conditions – Multi-storey car park site

Strata	Description	Depth to Base (m bgl)	Approx. Ave. Thickness (where encountered) (m)
Made Ground (ground cover)	Tarmacadam was encountered in all windowless sample boreholes to a maximum thickness of 0.10m.	0.05 – 0.1	0.05
Made Ground	Made Ground was present generally to depths of between 0.30 – 1.10m comprising clay, gravel and sand. Gravels were a mix of, quartzile, limestone, mudstone.	0.30 – 1.10	0.5
Superficial deposits	Underlying the Made Ground is a subsoil predominantly comprising brown sandy gravelly CLAY. Gravel of sandstone, mudstone and quartzile and rare slate.	2.95 - 5.45	>2.65

The ground conditions encountered across the site are generally comparable to the geology described in the British Geological Survey (BGS) map of the area.

4.2 Groundwater

The depth to resting groundwater level was recorded during Ian Farmer Associates Limited gas/groundwater monitoring rounds. A summary of the groundwater levels throughout the monitoring period is provided in Table 4.3.

Table 4.3: Summary of Groundwater Observations

Borehole	Water unit screened (depth)	Depth to groundwater (mbgl)						
		Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6	Rd 7
WS101	Superficials (1-4m)	NR	1.5	1.53	1.54	1.58	1.97	1.73
WS102	Superficials (1.5-4m)	NR	1.05	1.20	1.07	1.12	0.87	0.77
WS103	Made Ground (1-2.1m)	NR	0.8	0.93	1.09	1.17	NR	0.83
WS104	Superficials (1.7-3m)	0.47	0.37	0.70	0.78	0.86	0.48	0.39
WS105	Superficials (1.5-2m)	1.33	0.87	1.10	0.54	1.34	1.22	0.90
WS106	Superficials (0.6-5m)	0.49	0.39	0.53	NR	0.56	0.45	0.20
WS108	Superficials (1.1-3m)	0.48	0.52	0.62	0.66	0.81	0.22	0.35
WS109	Superficials (0.5-2m)	NR	Dry	0.56	0.57	0.62	1.32	1.03
WS110	Superficials (0.5-2.5m)	NR	NR	NR	0.38	0.18	1.40	NR

Notes: NR – No reading provided

Groundwater was encountered in all of the installed wells during some or all of the groundwater monitoring rounds. All depths provided were in meters below ground level (mbgl) and therefore ascertaining any groundwater flow direction is difficult. The shallow nature of the groundwater depths suggests a perched groundwater body overlying the clayey Superficial deposits.

4.3 Field Evidence of Contamination

4.3.1 Soils

No evidence of contamination was detected within the Made Ground or natural deposits during the investigation according to the borehole log descriptions and information contained within the Factual Report.

Soil headspace screening for volatile organic compounds was recorded using a photo-ionisation detector (PID) for selected soil samples. All PID concentrations were measured at below detection levels.

4.3.2 Groundwater

During groundwater sampling, no visual or olfactory evidence of contamination was noted.

4.4 Ground Gas Monitoring

A summary of the ground gas concentrations recorded over six (6) monitoring rounds undertaken between 2nd November 2021 and 22nd February 2022 is provided in Table 4.4 below. The maximum steady state flow rate was 7.3 litres per hour recorded in WS102 during round 2 undertaken 18th January 2022 which appears to be anomalous based on the other flow rates recorded. Full ground gas monitoring results are provided in within the Factual Report in Appendix 1.

Table 4.4: Summary of steady state Ground Gas Monitoring Results

Ground Gas	Conc. Range	Location of Min. Conc.	Location of Max. Conc.
Methane (% vol)	<0.1 – 3.6	All boreholes	WS103 (Rd 2)
Carbon Dioxide (% vol)	<0.1 – 3.1	Several	WS105 (Rd 1)
Carbon Monoxide (ppm)	<0.1	N/A	N/A
Hydrogen Sulphide (ppm)	<0.1	N/A	N/A
Oxygen (% vol)	1.1 – 22.7	WS103 (Rd 6)	WS110 (Rd 3)
VOC (ppm)	<0.1	N/A	N/A

5. HUMAN HEALTH ASSESSMENT

5.1 Assessment Approach

The main environmental legislation relating to contaminated land in the UK is Part 2A of the Environmental Protection Act 1990. The philosophy behind Part 2A is the source-pathway-receptor linkage; for land to be contaminated all three aspects of this linkage must be present (i.e. a contaminant must be present and able to move along a pathway and impact a receptor).

Ramboll has derived generic assessment criteria (GAC) for the interpretation of soil and groundwater chemical analyses. The GAC are threshold, based screening criteria below which a significant risk is not considered to be present. Contaminants at concentrations above the GAC do not infer an unacceptable risk; rather that further assessment is required to more fully understand potential contamination risks (as discussed below).

Full details of Ramboll's assessment methodology are presented in Appendix 2.

5.2 Analytical Results

5.2.1 Soils

The soil analytical results obtained during this investigation have been screened against the Ramboll GAC for industrial / commercial end use. The results of the screening are presented in full in Appendix 3. No concentrations were above the GAC.

pH

A total of fifteen soil samples reported PH values above 9 which indicates a highly alkaline environment. This is unlikely to present a significant risk to proposed site users although presents a potential risk to building materials.

Asbestos

Each sample from the Made Ground and / or surface soil was analysed for the presence of asbestos fibres. All samples from reported no detection of asbestos fibres.

Inorganics

Inorganic substances were not detected above the GAC in any of the Made Ground or Natural Ground obtained during this site investigation.

Organics

Organic substances were not detected above the GAC in any of the Made Ground or Natural Ground obtained during the site investigation.

All samples reported TPH concentrations significantly below GAC values.

5.2.2 Groundwater (Human Health)

The groundwater analytical results obtained during this investigation have been screened against the Ramboll GAC for commercial/Industrial end use. No concentrations were above the GAC.

Groundwater analytical certificates are presented in the Factual Report in Appendix 1.

5.2.3 Construction Workers

This report and the generic assessment criteria (GAC) consider long term and chronic risk to humans based on defined exposure scenarios set out in the Contaminated Land Exposure Assessment (CLEA) model. In some cases contaminants may also pose acute hazards to workers

at a site, or a worker's exposure scenario may differ from the scenarios considered when deriving the GAC.

As exposure times for construction workers are generally short term, risks from site contamination are generally addressed through the use of appropriate working procedures and the use of personal protective equipment (PPE) in line with the Management of Health and Safety at Work Regulations (1999), Construction (Design and Management) Regulations (2015) for some sites and the Control of Substances Hazardous to Health Regulations (2002). This potential source-pathway-receptor linkage is considered further in section 8.

6. WATER ENVIRONMENT ASSESSMENT

6.1 Assessment Approach

In the absence of relevant published water assessment criteria, the potential risk to the aquatic environment from entry of pollutants (either directly or via a groundwater pathway) has been assessed using commonly accepted UK guidelines including country specific Water Regulations and the Environmental Quality Standards (EQS) defined in European legislation such as the Water Framework Directive (WFD) (2000/60/EC).

For those determinands included in the analytical suite which do not have corresponding UK screening criteria derived from the above sources, reference is made to a hierarchy of international guidance in accordance with Environment Agency guidance.

Full details of Ramboll's assessment methodology are presented in Appendix 2.

6.2 Analytical Results

The analytical certificates for leachate and groundwater are presented in full within the Factual Report in Appendix 1. Screening tables for leachate and groundwater are presented in full in Appendix 3.

Exceedance of screening criteria does not infer that an unacceptable risk is present; the outcome of the screening is assessed further in the context of a qualitative source-pathway-receptor risk assessment presented in section 8.

The results of the screening are summarised in Table 6.1 below.

Table 6.1: Summary of leachate Analytical Results (controlled waters)

Determinand	Conc. Range (µg/l unless stated)	Location of Max. Conc.	Ramboll Controlled Waters GAC – Groundwater drinking water resource protection (µg/l – unless stated otherwise)	Ramboll Controlled Waters GAC – Surface waters environment (µg/l – unless stated otherwise)	No. and Location of Exceedance
Sulphate	<1 – 330mg/l	WS103 @0.5mbgl	250mg/l	400mg/l	1 (WS103)
Heavy Metals					
Arsenic	<1 - 33	TP102 @0.05mbgl	10	50	1 (TP102)
Lead	<1 - 256	TP102 @0.05mbgl	10	1.2 bioavailable	8 exceedances of GW GAC 7 exceedances of SWGAC.
Copper	1 - 41	TP101 @0.20mbgl	50	1 bioavailable	4 exceedances of SW GAC (TP101, TP104, WS106 and WS109)
Chromium	<1 – 8	TP102 @0.05mbgl	50	4.7	1 (TP102)
Vanadium	1 – 68	TP102 @0.05mbgl	NC	60	1 (TP102)
Zinc	2 - 322	TP102 @0.05mbgl	5000	10.9 bioavailable	4 (TP101, TP102, TP104 and WS105)
PAHs					
Fluoranthene	<0.02 – 0.09	WS104 @0.5mbgl	0.01	0.0063	4 (TP102, WS101 WS104, WS110)
Naphthalene	<0.02 – 0.1	WS104 @0.5mbgl	0.075	2	1 (WS104)

Table 6.2: Summary of groundwater Analytical Results (controlled waters)

Determinand	Conc. Range (µg/l unless stated otherwise)	Location of Max. Conc.	Ramboll Controlled Waters GAC – Groundwater drinking water resource protection (µg/l – unless stated otherwise)	Ramboll Controlled Waters GAC – Surface waters environment (µg/l – unless stated otherwise)	No. and Location of Exceedance
Sulphate	16 – 787mg/l	WS109	250mg/l	400mg/l	3 exceedances of GW GAC 1 exceedance of SWGAC.
Heavy Metals					
Copper	3 – 10	WS109	50	1 bioavailable	1 (WS110)
Selenium	<1 – 120	WS109	7.5	NC	1 (WS109)

6.3 Discussion of Results

6.3.1 Risks to groundwater resources

The following determinands were detected above the relevant GACs defined for the protection of the underlying Secondary A Aquifer and groundwater drinking water potential:

- Marginally elevated concentrations of leachable sulphate detected in Made Ground soils from WS103. Impacts also noted in groundwater. There are no other exceedances of sulphate within leachate samples, or within any of the corresponding soil samples. This marginal exceedance is therefore considered isolated and not likely to represent a significant impact at the site.
- Lead was reported above detection levels in eight (8) out of ten (10) Made Ground soil leachate samples from across the AOPMHU and multi-storey car park. The three most elevated concentrations were all from soils at the AOPMHU site at 63, 91 and 256 µg/l from TP101, WS105 and TP102 respectively. Lead was not detected in any of the groundwater samples suggesting that there is unlikely to be a significant source of leachable lead at the site.
- Marginally elevated concentrations of leachable arsenic were detected in Made Ground soils from TP102. There are no other exceedances of arsenic recorded within leachate or groundwater samples. This marginal exceedance is therefore considered isolated and not representative of the overall arsenic conditions at the site.
- Marginally elevated concentrations of leachable naphthalene and fluoranthene were detected in Made Ground soils at WS104. Generally both these determinands and all other PAHs were not reported above laboratory detection levels which suggests that these exceedances are isolated and not reflective of Made Ground soils at the site. Additionally, there were no significant concentrations of these compounds in the groundwater samples.
- Selenium was identified in one groundwater sample above the GAC, however no significant concentrations of leachable selenium were identified in the soil leachate analysis and it is considered there is unlikely to be a significant source of selenium at the site.

No other determinands were detected above the relevant GACs for the protection of groundwater.

In summary, although slightly elevated concentrations of several compounds were identified either in leachate or groundwater samples, these are considered unlikely to pose a significant risk to groundwater resource potential at the site.

6.3.2 Risks to surface water environment

The following determinands were detected above the relevant GACs defined for the protection of the surface water environment as a receptor:

- Bioavailable copper, lead and zinc were noted in several leachate samples above the relevant GAC. The estimated bioavailable fraction is highly dependent on pH. Typical pH in the groundwater samples was slightly lower than measured in the leachate samples and no significant impacts were noted in groundwater. It is unlikely that these low level impacts will pose a significant risk to the water environment at this site.
- Isolated marginal impacts of leachable chromium and vanadium were noted in the samples from TP102. These compounds were not identified in any other soil leachate

samples or in the groundwater samples and are therefore not considered to be significant.

- Fluoranthene was detected from Made Ground soils in TP102, WS104 and WS110 moderately exceeding the GAC. Generally, fluoranthene was not reported above laboratory detection levels which suggests that there is no significant source of fluoranthene within soils on site. Fluoranthene was also not found in the groundwater samples.

No other determinands were detected above the relevant GACs for the protection of surface waters.

In summary, although slightly elevated concentrations of several compounds were identified either in leachate or groundwater samples, these are considered unlikely to pose a significant risk to surface water receptors at the site.

7. BUILT ENVIRONMENT ASSESSMENT

7.1 Assessment Approach

Ground gases can be produced as a result of the decomposition of organic materials and may also originate from natural sources, such as coal seams and organic-rich soils. The principal components of ground gas are methane and carbon dioxide, although other gases may be present in trace concentrations. Ground gas can present a hazard to site occupants and property as result of flammable / explosive hazards, physiological effects, odour and effects on vegetation.

The ground gas assessment included in this report is provided for indicative purposes only and is not intended for use as a detailed ground gas risk assessment.

Ramboll has applied a semi-quantitative method in line with current good practice guidance on risk assessment to assess ground gas risks. Full details of Ramboll’s assessment methodology are presented in Appendix 2.

7.2 Ground Gas Monitoring Results

A low to moderate potential for ground gas generation has been identified at the site from historical mapping and following the production of the preliminary conceptual site model. In order to characterise the ground gas regime, six monitoring rounds were carried out between 2nd November 2021 and 22nd February 2022. The number and frequency of monitoring rounds was based on guidance provided within CIRIA C655¹ for a moderate sensitivity development and a moderate gas generation potential. In total 9 wells were monitored which targeted primarily superficial deposits due to the absence of sufficient Made Ground thickness, with the exception of WS103 both Made Ground and superficial deposits.

A summary of the ground gas concentrations recorded over the six monitoring rounds is provided in Table 7.1 below. The ground gas monitoring results are provided in full within the Factual Report in Appendix 3.

Table 7.1: Summary of Ground Gas Monitoring Results

Area	Monitoring Well	Response Zone	Max steady State Flow Rate (l/hr)	Methane (% v/v)	Methane Gas Screening Value (l/hr)	Carbon Dioxide (%)	Carbon Dioxide Gas Screening Value (l/hr)
AOPMHU	WS101	CLAY	0.1	<0.1	0.0001	1.2	0.0012
	WS102	CLAY	7.3	0.1	0.0073	1.6	0.1168
	WS103	MG	<0.1	3.6	0.0036	0.4	0.0004
	WS104	SAND	0.1	<0.1	0.0001	0.3	0.0003
	WS105	SAND	3.6	<0.1	0.0036	3.1	0.1116
Multi Storey Car Park	WS106	CLAY	3.4	<0.1	0.0034	1.4	0.0476
	WS107	NONE	-	-	-	-	-
	WS108	CLAY	0.1	<0.1	0.0001	1.0	0.001
	WS109	CLAY	0.1	<0.1	0.0001	0.1	0.0001
	WS110	CLAY	0.1	<0.1	0.0001	0.1	0.0001

¹ Assessing risks posed by hazardous ground gases to buildings; CIRIA C665, 2007

7.2.1 Atmospheric Pressure

Rounds 1 and 5 were undertaken under low atmospheric pressure conditions (997mb and 995mb respectively) whereas rounds 2, 3, 4 and 6 were conducted under moderate to high atmospheric pressure (1012mb – 1041mb). Antecedent pressure conditions were not provided within the factual report however historical information on Wunderground.com has confirmed that rounds 2 and 5 were undertaken during falling pressure conditions.

7.2.2 Flow Rates

The steady state gas flow rates were typically recorded below the instrument detection level (<0.1 l/h) at all well locations, with the exception of in WS102, WS105 and WS106 which recorded maximum steady state flow rates of 7.3 l/hr, 3.6 l/hr and 3.4 l/hr respectively. During each of these monitoring rounds however these boreholes were all flooded (slotted screen) and therefore are considered unlikely to represent true gas flow rates.

7.2.3 Methane and Carbon Dioxide

Methane was recorded above the lower instrument detection limit (<0.1%) in two (2) boreholes only during the six monitoring rounds. WS102 recorded a maximum concentration of 0.1% on 3 occasions only. WS103 recorded methane at between <0.1% - 0.5% in 5 of the 6 monitoring rounds with the exception of round 2 which was 3.6%. The screened section of WS103 during this monitoring round was saturated and therefore the concentrations recorded and isolated nature are unlikely to be representative of methane generation within WS103.

Carbon dioxide concentrations were typically recorded between 0.1% v/v and 3.1% by volume (v/v). Concentrations of carbon dioxide were generally most elevated within WS105 which screens the superficial sands and recorded carbon dioxide concentrations between 1.3 – 3.1% (v/v). Monitoring records also show that the screened section of WS105 was flooded throughout the monitoring rounds and therefore the concentrations recorded are unlikely to be representative of carbon dioxide generation within WS105.

7.2.4 Oxygen

Oxygen concentrations varied from 1.1 % by volume in WS103 and 21.7 % by volume in WS108. WS103 was the only borehole that was installed to screen the Made Ground and the oxygen levels were recorded to be below 18 % by volume in five out of six monitoring wells which indicates depleted oxygen concentration in the shallow ground.

The lowest oxygen levels generally do not correspond with the highest recorded methane and carbon dioxide concentrations. The screened section of WS103 was either fully or partially saturated during all monitoring rounds and therefore the monitored oxygen levels are unlikely to be representative of the actual conditions.

7.2.5 Carbon Monoxide

Carbon monoxide was detected at a maximum steady state concentration of 4ppm in WS102 in rounds 2 and 3 only. 3ppm was recorded in WS105 and WS106 in 1 round only. All other boreholes across all the rounds recorded CO at between less than detect and 2ppm.

7.2.6 Hydrogen Sulphide

Hydrogen sulphide was not detected at concentrations above the lower instrument detection limit (<1 ppm at all locations) with the exception of round 6 which recorded a maximum steady state concentration of 2ppm in WS106 only.

7.2.7 Volatile Organic Compounds (VOCs)

During the ground gas monitoring a photo-ionisation detector (PID) was used to screen for the potential presence of VOCs within the monitoring wells. PID readings were recorded below the instrument detection limit in all boreholes across all monitoring rounds.

7.3 Classification of Ground Gases

Details of Ramboll's assessment methodology is presented in Appendix 3 and a discussion of the results is provided below.

AOPMHU site

The gas screening value from WS102 and WS105 using the likely inaccurate flow rates and carbon dioxide concentrations classifies the AOPMHU site as a Characteristic Situation 2 (CS2) which would typically require gas protection measures. However, due to the screening sections being flooded during the monitoring rounds with the most elevated flow rates, and methane and carbon dioxide concentrations these readings are considered to be unrepresentative of the gas regime. Only WS103 is screened within Made Ground and the most elevated readings from WS103 classify the site as CS1. Due to the absence of any obvious degradable organic material within the Made Ground and the unreliable monitoring data due to flooded wells it is considered unlikely that any significant source of ground gas exists below the proposed AOPMHU building and therefore the site has been classified as CS1, meaning no gas protection measures are required.

Car Park site

The ground gas regime at the car park site has been classified as a Characteristic Situation 1 (CS1) even when using the likely inaccurate flow rate of 3.4 l/hr from WS106. The proposed end-use of this part of the site will allow any unlikely production of ground gases to vent to atmosphere and therefore there is no significant risk to site end users.

7.4 Workplace Exposure Limit Assessment

In order to confirm if a potential risk to future construction workers exists whilst working in confined spaces, the gas monitoring results for carbon dioxide, carbon monoxide and hydrogen sulphide have been assessed against the short-term and long-term workplace exposure limits as indicated by the Health and Safety Executive in Workplace Exposure Limits HSE EH40/2005. Only those boreholes in the AOPMHU site are used for this assessment as the other boreholes are for a multi-storey car park. The results of this assessment are summarised in Table 7.2 below:

Table 7.2: Workplace Exposure Limit Assessment

Substance	Long Term Workplace Exposure Limit (8-Hour TWA Reference Period - ppm)	Short Term Workplace Exposure Limit (15-minute reference period - ppm)	No. of Wells with Long Term Exceedances	No. of Wells with Short Term Exceedances	Peak Concentration
Carbon Monoxide	30	200	0	0	0ppm
Hydrogen Sulphide	5	10	0	0	0ppm
Carbon Dioxide	5000 (0.5%)	15000 (1.5%)	4	2	3.1% from superficial deposits (WS105)

The short and long-term workplace exposure limits for measured concentrations of carbon monoxide and hydrogen sulphide were not exceeded.

The carbon dioxide concentrations from the majority of wells installed exceed the short-term with 2 wells exceeding long-term workplace exposure assessment limit.

Exceedances of the workplace exposure limits and depleted oxygen represent a risk to construction workers within confined spaces such as excavations and appropriate mitigation measures should be adopted during future ground works.

The workplace exposure limits apply to exposure from inhalation and the assessment is applicable to construction and maintenance workers within confined spaces including excavations.

7.5 Water Supply Pipes

Buried water supply pipes can be at risk from permeation and accelerated deterioration from certain contaminants. A detailed assessment of existing and future pipe materials is outside of the scope of this investigation; however, architects and designers should liaise with the local water supply company and are directed to the following document for guidance:

- Water UK, Contaminated Land Assessment Guidance, 2014
- Guidance for the Selection of Water Supply Pipes to be used in Brownfield sites; UK Water Industry Research (UK WIR), 2010 (Ref. 10/WM/03/21)

7.6 Building Materials

There are a number of contaminants that may attack some building materials under certain conditions if present. The focus of this investigation is to assess risks to human health and environmental receptors and no assessment has been made of impact to building materials.

8. SOURCE-PATHWAY-RECEPTOR RISK ASSESSMENT

8.1 Revised Conceptual Site Model

Using information obtained during this site investigation, the preliminary conceptual site model presented in section 3.1 has been refined and is described in Table 8.1 below.

Table 8.1: Revised Conceptual Site Model

<p>Sources of Contamination</p> <p>On the basis of this site investigation, the following contaminants have been identified at elevated concentrations on site within soils and groundwater:</p> <p>No significant sources have been identified which would pose a risk to human health based on the proposed use.</p> <p>Minor impacts of metals, sulphate and PAHs have been identified in soil leachate analysis with much lower concentrations or no corresponding impacts in groundwater above the GAC for groundwater resources or surface waters.</p>			
<p>Geology</p> <p>Made Ground was encountered to a maximum depth of 2.1m at the AOPMHU site, and to a maximum depth of 1,1m at the car park site. The Superficial deposits of Devensian Till (sands, gravels and clay) was encountered to a maximum depth of 5.45m. The ground investigation did not encounter the bedrock due to the relatively shallow nature of the windowless sampling. The proposed development will be predominantly surfaced with hard standing which will reduce infiltration and leaching potential.</p>			
<p>Hydrogeology</p> <p>The Warwickshire Group bedrock underlying the site classified as a Secondary A Aquifer was not encountered. The Superficial Deposits with an Aquifer Designation of Secondary Undifferentiated was encountered.</p>			
<p>Hydrology</p> <p>No surface water features are located within the proposed development areas. There are however a number of surface water courses located on the wider hospital site including an attenuation pond which includes water year-round. The nearest identified Water Framework Directive Surface water body is the river Gele which is located over 2km north of the site.</p>			
<p>Potential Contaminant Linkages</p> <p>The following potential pollutant linkages have been identified at the site and are considered further in the qualitative risk assessment:</p>			<p>Potential Contaminant Linkage</p>
<p>Water Environment</p>	<p>On-site</p>	<p>Migration of leachable impacts to Secondary A Aquifer</p>	<p>PCL1</p>
	<p>Off-site</p>	<p>Migration of leachable impacts to surface water environment</p>	<p>PCL2</p>

8.2 Qualitative Risk Assessment

The principal sources of contamination, receptors and potential pollutant linkages have been assessed using a qualitative source-pathway-receptor approach and are summarised in Table 8.2 below. Further details of the methodology are provided in Appendix 2.

Table 8.2: Revised Conceptual Site Model

Potential Contaminant Linkage	Contaminant	Pathways	Receptors	Probability of pollutant linkage being realised	Severity of consequence	Risk Rating
PCL1	Minor impacts of metals, sulphate and PAHs detected in soil leachate analysis and very minor impacts in groundwater.	Leaching of Made Ground soils into groundwater	Secondary A Aquifer in underlying bedrock	Low	Minor	Very Low. The minor impacts in leachate did not correspond to elevated soils concentrations or to impacts in groundwater. Given the proposed use of the site and site setting these impacts are not considered significant.
PCL2			Off-site surface water environment	Unlikely	Minor	Very Low. The minor impacts in leachate did not correspond to elevated soils concentrations or to impacts in groundwater. Given the proposed use of the site and site setting these impacts are not considered significant.

9. WASTE CLASSIFICATION

9.1 Methodology

The assessment has been undertaken using available soil chemical data and HazWasteOnline, a web-based tool for classifying waste. The software utilises Environment Agency guidance and European regulations to classify samples in line with current requirements.

9.2 Soils Assessment

27 samples were taken from shallow soils and the analytical results were entered into HazWasteOnline to provide a waste classification. The HazWasteOnline output sheets are provided in Appendix 4.

All 27 samples were classified as 'Non-Hazardous'.

9.3 Summary

Based on the information available, the likely waste classification of the soils underlying the development is expected to be 'Non-Hazardous' for the Made Ground.

Any Made Ground to be disposed off-site should be segregated according to material type to ensure any concrete or tarmacadam is separated from the soils waste and allowed to be disposed under the correct waste code.

The classification of waste reported above must be confirmed by the receiving landfill prior to disposal, under Duty of Care. Any material to be disposed of as hazardous or inert waste must have waste acceptance criteria analysis (WAC) provided to confirm appropriate class of landfill.

WAC testing was scheduled on five (5) samples by Ian Farmer Associates Limited with the laboratory certificates included within the factual report. Below is a summary of the WAC analysis.

TP104 @ 0.1mbgl – Made Ground soils suitable for disposal as inert waste;

TP104 @ 0.3mbgl – Made Ground soils suitable for disposal as non-hazardous waste;

WS103 @ 0.5mbgl – Made Ground soils suitable for disposal as inert waste;

WS105 @ 0.2mbgl – Made Ground soils suitable for disposal as non-hazardous waste;

WS110 @ 0.2mbgl - Made Ground soils suitable for disposal as inert waste;

The descriptions of the Made Ground samples above suggest that there is no discernible visual differences between soils that will likely be suitable for disposal as inert waste and those which are non-hazardous waste. Ramboll therefore recommends that should a significant quantity of soils be scheduled for off-site disposal those soils should be stockpiled for further sampling and WAC analysis to verify which soils can be disposed as inert waste.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 Summary and Risk Assessment Conclusions

Ramboll UK Limited (Ramboll) were commissioned by BAM Construction Ltd to produce an Interpretative ground contamination report in support of planning conditions for the proposed redevelopment in two areas within the existing Glan Clwyd Hospital site. Factual Reporting was provided by Ian Farmer Associates Ltd following intrusive works.

During the ground investigation there was no noted visual or olfactory evidence of suspected contamination.

Following analysis of both Made Ground and natural soils underlying the site it is concluded that there are no significant risks to the proposed site end user.

No soils exceeded the respective GAC based on a commercial/industrial land use.

Leachate analysis from Made Ground soils and groundwater analysis from shallow likely perched water recorded minor impacts above the GAC (defined to be protective of the surface water environment and groundwater resource potential). However consideration of these impacts in the context of the conceptual site model concluded a very low risk rating.

Ground gas findings have characterised both the AOPMHU site and the multi-storey car park site as CS1 following an assessment of available monitoring data.

10.2 Waste Classification

Based on the information available, the likely waste classification of the majority of soils underlying both development sites is expected to be 'Non-Hazardous' for the Made Ground. Available WAC analysis of five (5) Made Ground samples assessed three (3) as suitable for disposal as inert waste, and two (2) as non-hazardous waste.

The descriptions of the Made Ground samples above suggest that there is no discernible visual differences between soils that will likely be suitable for disposal as inert waste and those which are non-hazardous waste. Ramboll therefore recommends that should a significant quantity of soils be scheduled for off-site disposal those soils should be stockpiled for further sampling and WAC analysis to verify which soils can be disposed as inert waste.

Any Made Ground to be disposed off-site should be segregated according to material type to ensure any concrete or tarmacadam is separated from the soils waste and allowed to be disposed under the correct waste code.

The classification of waste reported above must be confirmed by the receiving landfill prior to disposal, under Duty of Care. Any material to be disposed of as hazardous or inert waste must have waste acceptance criteria (WAC) analysis provided to confirm appropriate class of landfill.

10.3 Recommendations

On the basis of the conclusions from this environmental site investigation, the following recommendations are made:

Should the reuse of site won material be required, any such reuse should be in accordance with an appropriately designed Material Management Plan (MMP) in accordance with the CL:AIRE, 2011 Waste Code of Practice. To conform with the Waste Code of practice, the following items will be required:

- Design Statement including, inter alia, a methodology for the management of unsuspected contamination which may be encountered during works including for consultation with an

appropriately qualified environmental consultant, stockpiling and additional chemical testing / assessment prior to re-use;

- Material Management Plan (MMP);
- Sign-off and submission of the Declaration by a Qualified Person (QP);
- Production of a Validation Report.

An environmental watching brief by an appropriately qualified environmental consultant is recommended, in particular during the removal of any existing foundations associated with the existing structure at the AOPMHU site and earthworks phases of development, with subsequent validation sampling in accordance with the methodology outlined within the Material Management Plan/Remediation Strategy. This will allow an independent verification report to be prepared which will be required after works are complete.

APPENDIX 1 FACTUAL REPORT

BAM CONSTRUCTION LTD

GLAN CLWYD HOSPITAL

**FACTUAL REPORT ON
GROUND INVESTIGATION**

Contract: 2230534

Date: March 2022

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**FACTUAL REPORT ON
GROUND INVESTIGATION**

carried out at

GLAN CLWYD HOSPITAL

Prepared for

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Contract No: 2230534

Date: March 2022

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1.0 INTRODUCTION

- 1.1 It is understood that the proposed development comprises a multi storey mental health treatment building and a multi storey car park.
- 1.2 On the instructions of Bam Construction Ltd with Ramboll acting as Consulting Engineers, a ground investigation was undertaken to determine ground and groundwater conditions at the site.
- 1.3 This report has been prepared for the sole use of the Client for the purpose described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.
- 1.4 Any comments given in this report and the opinions expressed herein are based on the information received, the conditions encountered during site works, and on the results of tests made in the field and laboratory. However, there may be conditions prevailing at the site which have not been disclosed by the investigation and which have not been taken into account in the report.
- 1.5 Groundwater observations may be made at the time the site work was carried out or during subsequent monitoring. It should be noted that groundwater levels may vary outside the limits of these observations due to seasonal or other effects.

2.0 THE SITE

2.1 Site Location

- 2.1.1 The site is situated at Glan Clwyd Hospital in the town of Bodelwyddan, Denbighshire.
- 2.1.2 The site may be located by National Grid Reference SJ 001 761.
- 2.1.3 A site location plan is included in Appendix 1, Figure A1.1.

2.2 Site Description

- 2.2.1 The site is situated within the grounds of an existing hospital.
- 2.2.2 The site was split into two areas. The first area was located in the west side of the hospital grounds adjacent the mortuary and pathology lab and the second was located in the northeast corner.
- 2.2.3 Both areas comprised car parks, were sensibly level and comprised hardstanding of tarmacadam.
- 2.2.4 The site is bound to the east by Rhuddlan Road, to the south by housing and to the west and north by fields.
- 2.2.5 A site plan is included in Appendix 1 as Figure A1.2.

3.0 SITE WORK

- 3.1 The site work was carried out between the 12th and 14th October 2021 and the locations of exploratory holes were indicated by the Engineer.
- 3.2 The site works were carried out on the basis of the practices set out in and BS 5930:2015+A1:2020 (ref. 5.1), BS EN ISO 14688-1:2018 (ref. 5.2) and BS 10175:2011+A2:2017 (ref. 5.3).
- 3.3 Exploratory holes were undertaken as follows:
- WS101 to WS106 and WS108 to WS110: Windowless sample boreholes
 - WS107: Windowless sample borehole terminated with inspection pit
 - TP101 and TP102: Hand excavated trial pits
 - TP104: Machine excavated trial pits
- 3.4 A site plan showing the positions of the exploratory holes is presented in Appendix 1 as Figure A1.2.
- 3.5 The depths of exploratory holes, descriptions of strata encountered and comments on groundwater conditions are presented on the records in Appendix 2.
- 3.6 A Cable Avoidance Tool (CAT) survey was undertaken at each exploratory hole location prior to excavation. At the location of boreholes an inspection pit was excavated by hand to a depth of 1.20m below ground level to check for buried services.
- 3.7 At the location of boreholes an inspection pit was excavated by hand to a depth of 1.20m below ground level to check for buried services.
- 3.8 Representative disturbed samples were taken at the depths shown on the exploratory hole records. Samples for environmental purposes were collected in appropriate containers and kept in cool boxes for daily despatch to the analytical laboratory.
- 3.9 A photographic record of trial pits is given in Appendix 2.
- 3.10 Standard penetration tests (SPT) (ref. 5.4) were carried out in boreholes in the various strata to assess the relative density or consistency. The values of penetration resistance are presented on the borehole records. Energy ratio calibration certification for the SPT hammer used on site is presented in Appendix 2.
- 3.11 Perforated standpipes surrounded by pea shingle were installed in boreholes WS101 to WS106 and WS108 to WS110. The details of the installations are presented on the borehole records in Appendix 2. The standpipes were protected at surface by lockable flush stopcock covers.
- 3.12 Gas and groundwater monitoring was carried out after completion of site works and the results are presented in Appendix 2. Groundwater samples were also recovered and despatched for testing, the results of which are presented in Appendix 4. Groundwater

quality measurements were taken as the groundwater was being purged, the results of which are given in Appendix 2.

- 3.13 The co-ordinates and ground levels at the exploratory hole locations were not determined.

4.0 LABORATORY TESTS

4.1 Geotechnical Testing

- 4.1.1 Schedules for geotechnical testing were prepared by Ramboll.
- 4.1.2 Soil samples for testing were prepared in accordance with BS1377: Part One: 1990 (ref. 5.5) and representative sub-samples were taken for testing. The following tests were carried out:
- 8 No. Moisture contents
 - 8 No. Plasticity indices
 - 2 No. Particle size distribution by wet sieving
 - 2 No. Particle size distribution by pipette analysis
- 4.1.3 The results of the soil tests are presented in Appendix 3, Test Report 2230534/1.

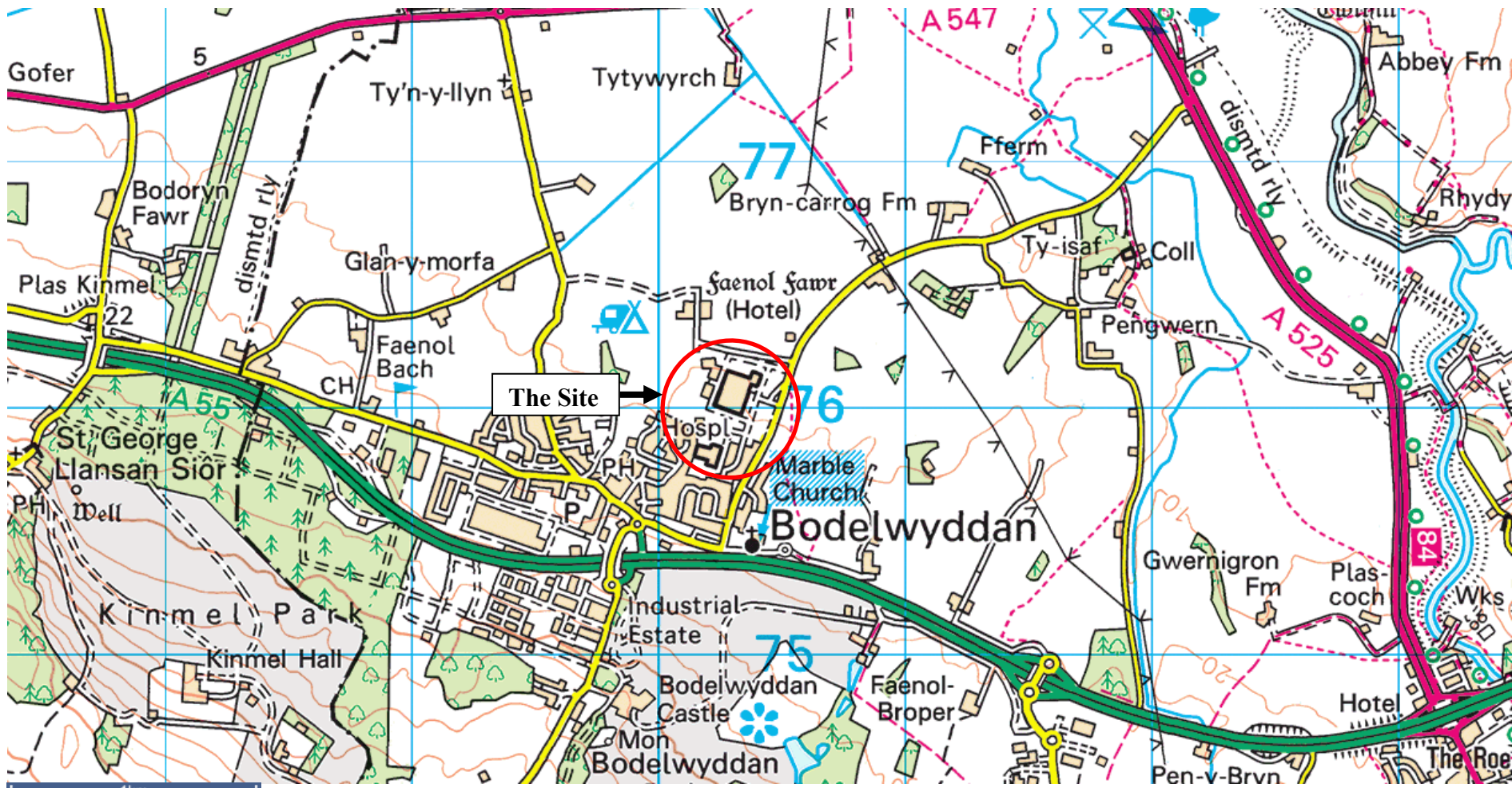
4.2 Chemical Testing

- 4.2.1 Schedules for chemical testing were prepared by Ramboll.
- 4.2.2 Chemical testing was carried out by Envirolab, Hyde.
- 4.2.3 Chemical analysis was carried out on samples of soil, leachate and water. The nature of the analysis is detailed below:
- 4.2.4 **Suite E** - arsenic, antimony, barium, boron, cadmium, chromium (trivalent and hexavalent), copper, lead, mercury, nickel, zinc, selenium, vanadium, pH, water soluble sulphate, total organic carbon, polyaromatic hydrocarbons (PAH) – USEPA 16 suite and total petroleum hydrocarbons (TPH) – CWG
- 4.2.5 **Suite F** - arsenic, antimony, barium, boron, cadmium, chromium (trivalent and hexavalent), copper, lead, mercury, nickel, zinc, selenium, vanadium, pH, dissolved organic carbon, polyaromatic hydrocarbons (PAH) – USEPA 16 suite and total petroleum hydrocarbons (TPH) – CWG, ammoniacal nitrogen, electrical conductivity, hardness and sulphate
- 4.2.6 **Others** – asbestos and waste acceptance criteria (WAC)
- 4.2.7 The results of chemical analysis are presented in Appendix 4, Test Reports 21/11537 and 22/00818.

5.0 REFERENCES

- 5.1 BS 5930:2015+A1:2020, Code of practice for ground investigations
- 5.2 BS EN ISO 14688-1:2018, Geotechnical investigation and testing. Identification and classification of soil. Identification and description
- 5.3 BS 10175:2011+A2:2017, Investigation of potentially contaminated sites. Code of practice
- 5.4 BS EN ISO 22476-3:2005+A1:2011, Geotechnical investigation and testing. Field testing. Standard penetration test
- 5.5 BS 1377-1:2016, Methods of Test for Soils for Civil Engineering Purposes. General requirements and sample preparation

APPENDIX 1
DRAWINGS



PROJECT: Glan Clwyd Hospital	
FIGURE No. A1.1.	SCALE: As above
TITLE: Site Location Plan	

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Legend Key

- ▼ Locations By Type - WLS
- Locations By Type - TP

Project:
Glan Clwyd Hospital

Client:
Bam Construction Ltd

Title:
Exploratory Hole Location Plan

Project ID: 2230534	Scale: 1:2500
Figure Number: Fig. A1.2	Revision: (00)



APPENDIX 2

SITE WORK

APPENDIX 2

GENERAL NOTES ON SITE WORKS

A2.1 SITE WORK

A2.1.1 Drive-in Window Sampler

The drive-in window sampler consists of a series of cylindrical sample tubes, generally varying in diameter from 80mm to 35mm. A cutting shoe is fitted to the bottom of each tube, while a window, representing about a quarter of the circumference, is cut along the length of the tube.

The largest diameter tube is driven into the ground using a small vibrating breaker. The sample tube is extracted by means of a ratchet or hydraulic extraction system.

The borehole is extended by using progressively smaller diameter tubes.

Soil samples are extracted through the window of the tube.

A2.1.2 Trial Pits

Shallow trial pits are generally dug by mechanical excavator, however, in difficult access locations or adjacent to structures, such pits may be hand dug. Pits are best used where the ground will stand unsupported and generally, the maximum depth of machine dug pits is 4m to 5m. Where personnel are required to enter pits, it is essential that side support is provided. Entry by personnel into unsupported pits deeper than 1.2m is not allowed for health and safety reasons.

Trial pits allow the in-situ condition of the ground to be examined both laterally and vertically and also allow discontinuities to be recorded. The field record should give the orientation of the pit with details of which face was logged, assessment of stability of sides of pit and groundwater as well as the strata encountered. Photographs of the pit may also be taken.

In-situ testing, such as hand penetrometer, hand vane, Macintosh probe, or similar, can be undertaken in the sides or base of pits while both disturbed and undisturbed samples may be recovered.

It is generally advisable to backfill the pits as soon as possible, open pits should not be left unattended.

A2.2 IN-SITU TESTS

A2.2.1 Standard Penetration Test

The Standard Penetration Test is carried out in accordance with the proposals recommended in (ref 5.4).

The standard penetration test, **SPT**, covers the determination of the resistance of soils to the penetration of a split barrel sampler. A 50mm diameter split barrel sampler is driven 450mm into the soil using a 65kg hammer with a 760mm drop. The penetration resistance is expressed as the number of blows required to obtain 300mm penetration below an initial seating drive of 150mm through any disturbed ground at the bottom of the borehole. The number of blows to achieve the standard penetration of 300mm is reported as the 'N' value.

The test is generally carried out in fine soils, however, it may also be carried out in coarse granular soils, weak rocks and glacial tills using the same procedure as for the SPT but with a 50mm diameter, 60° apex solid cone replacing the split spoon sampler, **CPT**.

When attempting the standard penetration test in very dense material or weathered rocks it may be necessary to terminate the test before completion to prevent damage to the equipment. In these circumstances it is important to distinguish how the blow count relates to the penetration of the sampler. This may be achieved in the following manner:

- Where the seating drive has been completed, the test drive is terminated if 50 blows are reached before the full penetration of 300mm is achieved. The penetration for 50 blows is recorded and an approximate N value obtained by linear extrapolation of the number of blows for the partial test drive.
- If the seating drive of 150mm is not achieved within the first 25 blows, the penetration after 25 blows is recorded and the test drive then commenced.
- For tests in soft rocks, the test drive should be terminated after 100 blows where the penetration of 300mm has not been achieved.

The N-value obtained from the Standard Penetration Test may be used to assess the relative density of sands and gravels as follows:

Term	SPT N-Value : Blows/300mm Penetration
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

A2.3 SAMPLES

- ES represents environmental sample
- B represents bulk disturbed samples
- D represents small disturbed sample
- W represents water sample
- ∇ represents water strike
- ▼ represents level to which water rose

A2.4 DESCRIPTION OF SOIL

A2.4.1 Soil

The procedures and principles given in BS EN ISO 14688-1:2018 (Ref. 5.2) and BS 5930:2015 (Ref. 5.1) have been used in the soil descriptions contained within this report.

SPT Hammer Calibration Certificate

SPT Hammer Energy Test Report

In accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref: DART508
Test Date: 17/12/2020
Report Date: 17/12/2020
File Name: DART508.spt
Test Operator: CM

Instrumented Rod Data

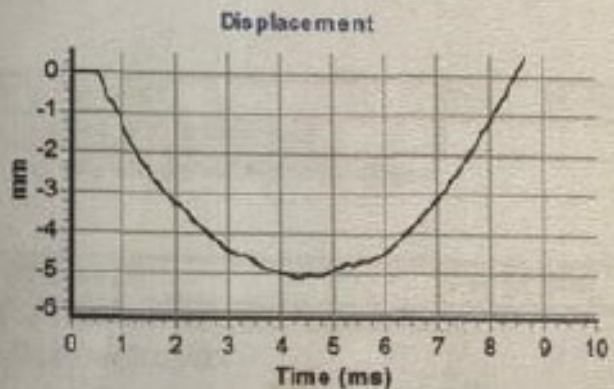
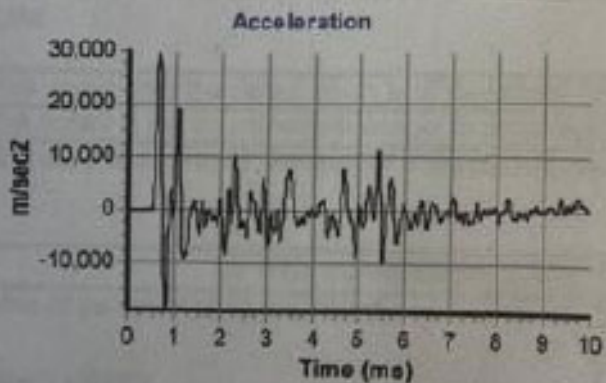
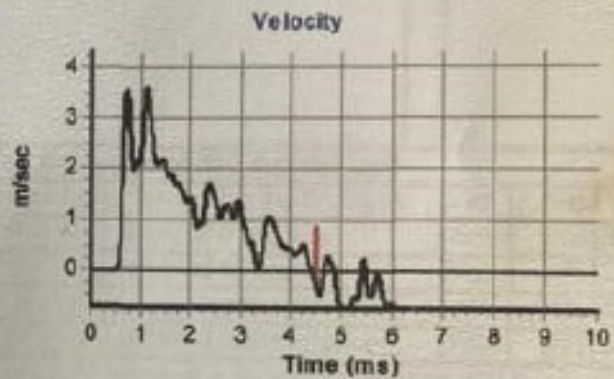
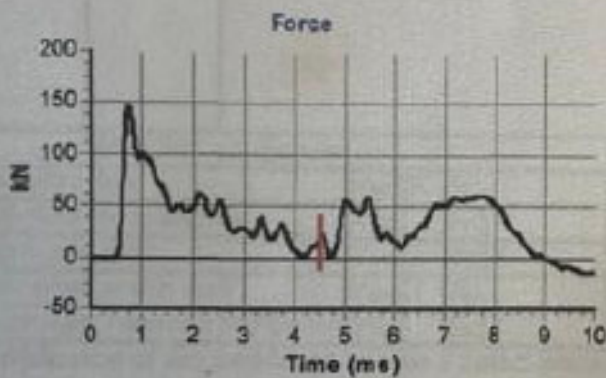
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.3
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 7080
Accelerometer No.2: 11609

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 10.0

Comments / Location

D&I DRILLING/72692



Calculations

Area of Rod A (mm^2): 944
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 324

Energy Ratio E_r (%): **68**

Signed: C. McCluskey
Title: FITTER

The recommended calibration interval is 12 months

Borehole Records (Windowless Sampler)



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS101
Dates: 13/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.05	D1			0.10	MADE GROUND: Slate chippings (decorative).			
0.20	D3			(0.80)	MADE GROUND: Soft, locally firm, sandy, gravelly CLAY. Gravel is angular to subangular, fine and medium including brick, slate and sandstone.			
0.20	ES2	PID=0.0ppm						
0.20				0.90	Firm, slightly sandy, gravelly CLAY. Gravel is subangular to rounded, fine and medium including sandstone, mudstone and quartzite.		1	
0.50	ES4	PID=0.0ppm						
0.50				(2.00)			2	
1.00	ES5	PID=0.0ppm						
1.00				2.90	Firm, locally stiff, slightly sandy, slightly gravelly CLAY with partially decayed roots. Gravel is subangular to subrounded, fine including sandstone, mudstone and quartzite.		3	
1.20	D6	SPT(S) N=10 (2,3/2,3,2,3)						
2.00				(2.55)			4	
2.00	ES7	SPT(S) N=22 (3,4/5,5,6,6)						
2.00 - 2.45	D8	PID=0.0ppm		5.45	At 4.50m: becomes soft to firm.		5	
2.00	D9							
2.50				End of Borehole at 5.45m			6	
3.00	ES10	SPT(S) N=21 (3,3/4,5,6,6)						
3.00 - 3.45	D11	PID=0.0ppm		7			7	
3.00	D12							
3.50				8			8	
4.00	D13	SPT(S) N=17 (3,3/4,4,4,5)						
4.00 - 4.45	D14			9			9	
4.50								
5.00	D15	SPT(S) N=18 (3,4/4,4,5,5)		10			10	
5.00 - 5.45								

Dynamic Sample Recovery					Remarks:									
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m.									
1.20	2.00		100		SPT Hammer: DART508 Energy Ratio: 68%									
2.00	3.00		100											
3.00	4.00		100											
4.00	5.00		100											
					Water Strikes									
					Monitoring Installations									
					Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
											0.00	1.00	Plain	
											1.00	4.00	Slotted	
Checked by:	MHW		IFA DS											
Log status:	DRAFT		v01.01											



Plant used:	Project:		Location ID:
Dates:	Client:		WS102
12/10/2021	Bam Construction Ltd		
Dynamic Sample Borehole Log	Location:	Ground level:	Sheet 1 of 1
		Logged by: MP	Project ID: 2230534
		Vertical scale: 1:50	

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.10 - 0.28	B1			0.10	MADE GROUND: Tarmacadam.			
0.15	ES2							
0.15		PID=0.0ppm		0.38	MADE GROUND: Yellowish brown, slightly clayey, fine and medium SAND and angular to subrounded, fine to coarse GRAVEL including sandstone, mudstone and brick.			
0.45	D4							
0.45	ES3			0.65	MADE GROUND: Greyish brown, very gravelly, very clayey, medium and coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone, mudstone, flint, quartzite and brick.			
0.45		PID=0.0ppm		(0.55)	MADE GROUND: Firm, reddish brown, sandy, gravelly CLAY.			
0.70	D6							
0.70	ES5			1.20	Gravel is subangular to subrounded, fine to coarse including sandstone, brick, slate, flint and mudstone.			
0.70		PID=0.0ppm						
1.20		SPT(S) N=11 (2,2/2,3,3,3)						
1.20	ES7							
1.20 - 1.65	D8							
1.20		PID=0.0ppm						
1.50	D9							
2.00		SPT(S) N=22 (3,4/5,5,6,6)						
2.00 - 2.44	D10							
2.20	ES11							
2.20		PID=0.0ppm						
2.50	D12							
3.00		SPT(S) N=19 (3,4/4,5,5,5)						
3.00 - 3.45	D13							
3.20	ES14			(4.25)				
3.20		PID=0.0ppm						
3.50	D15				At 3.50m: becomes firm.			
4.00		SPT(S) N=13 (2,2/3,3,3,4)						
4.00 - 4.45	D16							
4.20	ES17							
4.20		PID=0.0ppm						
4.50	D18				At 4.50m: becomes soft.			
5.00		SPT(S) N=20 (6,5/5,5,5,5)						
5.00 - 5.45	D19			5.45	End of Borehole at 5.45m			

Dynamic Sample Recovery					Remarks:									
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m.									
1.20	2.00		100											
2.00	3.00		100											
3.00	4.00		85											
4.00	5.00		85											
					SPT Hammer: DART508 Energy Ratio: 68%									
					Water Strikes				Monitoring Installations					
					Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
											0.00	1.50	Plain	
											1.50	4.00	Slotted	
Checked by:		MHW		IFA DS v01.01										
Log status:		DRAFT												



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS103
Dates: 12/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Project ID: 2230534
		Logged by: MP	Vertical scale: 1:50

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.15	D2			0.10	MADE GROUND: Tarmacadam.			
0.15	ES1			(0.38)	MADE GROUND: Yellowish brown, slightly clayey, fine and medium SAND and angular to subrounded, fine to coarse GRAVEL including sandstone, mudstone and brick.			
0.15		PID=0.0ppm		0.48				
0.50	D4			(0.42)	MADE GROUND: Grey very clayey, fine to coarse SAND and angular to subrounded, fine to coarse GRAVEL including sandstone, mudstone, quartzite, brick, plastic, tile, clinker, wood and limestone.			
0.50	ES3			0.90				
0.50		PID=0.0ppm		1.15	MADE GROUND: Dark reddish brown, very gravelly, very clayey, fine and medium SAND. Locally very sandy firm clay. Gravel is angular to rounded, fine to coarse including brick, flint, slate, sandstone, mudstone and quartzite.			
1.00	D6			(0.95)	MADE GROUND: Stiff, orange brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including mudstone, sandstone, brick, concrete, limestone, flint and mudstone.			
1.00	ES5			2.10				
1.00		PID=0.0ppm			Stiff, orange brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded, fine to coarse including sandstone, quartzite, mixed igneous lithologies and mudstone.			
1.20	D8							
1.20	D7							
1.20 - 1.65		PID=0.0ppm						
1.20		SPT(S) N=11 (2,2/2,3,3,3)						
2.00 - 2.45	D9							
2.00	D11							
2.00	ES10							
2.00		PID=0.0ppm						
2.00		SPT(S) N=15 (3,3/3,4,4,4)						
2.20								
2.20								
2.20		PID=0.0ppm						
3.00		SPT(S) N=15 (3,3/3,3,4,5)						
3.00 - 3.45	D12							
3.50	D14							
3.50	ES13			(3.35)				
3.50		PID=0.0ppm						
4.00		SPT(S) N=11 (2,3/2,3,3,3)						
4.00 - 4.45	D16				At 4.20m: becomes firm.			
4.50	D17							
4.50	ES15							
4.50		PID=0.0ppm						
5.00		SPT(S) N=11 (2,3/2,3,3,3)						
				5.45	End of Borehole at 5.45m			

Dynamic Sample Recovery					Remarks:				
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m.				
1.20	2.00		100						
2.00	3.00		100						
3.00	4.00		100						
4.00	5.00		100						
					SPT Hammer: DART508 Energy Ratio: 68%				
					Water Strikes			Monitoring Installations	
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
2.10			0	2.10	Seepage	0.00	1.00	Plain	
						1.00	2.10	Slotted	
Checked by:	MHW	IFA DS							
Log status:	DRAFT	v01.01							



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS104
Dates: 13/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.20	ES1	PID=0.0ppm		0.15	MADE GROUND: Tarmacadam.			
0.20 - 0.45	B2			(0.30)	MADE GROUND: Light pink brown, fine to coarse SAND and angular to subangular, fine to coarse GRAVEL including sandstone, mudstone and quartzite.			
0.45 - 1.20	B3	PID=0.0ppm		0.45	MADE GROUND: Soft, yellow brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including sandstone, mudstone, slate, quartzite and flint.		1	
0.50	ES4			(0.75)				
1.00	D5	SPT(S) N=10 (2,3/2,3,2,3)		1.20	Stiff, brown, slightly sandy CLAY.			
1.20 - 1.65	D6			(0.50)				
1.30	D8	PID=0.0ppm		1.70	Medium dense, brown, very gravelly, very clayey, fine to coarse SAND. Gravel is angular to rounded, fine and medium including sandstone, mudstone, slate and quartzite.		2	
1.30	ES7			(1.75)				
1.80	ES9	SPT(S) N=18 (2,3/3,4,5,6)					3	
1.80 - 2.30	B10							
2.00	D11	SPT(S) N=15 (2,3/3,4,4,4)					4	
2.00 - 2.45	B12							
2.30 - 3.00								
3.00								
				3.45	End of Borehole at 3.45m			

Dynamic Sample Recovery					Remarks:				
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m. Borehole terminated due to wet sand coming up casing and unable to progress further.				
1.20	2.00		100						
2.00	3.00		100						
					SPT Hammer: DART508 Energy Ratio: 68%				
					Water Strikes			Monitoring Installations	
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
1.20			0	1.20		0.00	1.70	Plain	
						1.70	3.00	Slotted	
Checked by:	MHW	IFA DS							
Log status:	DRAFT	v01.01							



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS105
Dates: 13/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.00 - 0.45	B1 ES2	PID=0.0ppm		(0.45)	MADE GROUND: Grass over gravelly, silty, fine SAND. Gravel is angular to subrounded, fine to coarse including slate, mudstone, sandstone and wood.			
0.45 - 1.20	B3 ES4	PID=0.0ppm		0.45	Orange brown, gravelly, slightly silty, medium and coarse SAND. Gravel is subangular to subrounded, fine and medium including sandstone.			
1.00	D5							
1.20	D7	SPT(S) N=10 (1,1/2,3,2,3)		1.20	Stiff, brown, slightly gravelly, sandy CLAY. Gravel is angular to rounded, fine including sandstone, mudstone and quartzite.			
1.30	ES6	PID=0.0ppm		(0.30)				
1.50 - 2.00	B8 ES9	PID=0.0ppm		1.50	Brown, silty, medium and coarse SAND.			
1.60				(0.50)				
1.60				2.00	Stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded, fine and medium inclining sandstone, mudstone, quartz, quartzite and mixed igneous lithologies.			
2.00	B10	SPT(S) N=15 (3,3/3,3,4,5)						
2.00 - 2.45	D11							
2.00 - 3.00	B10 ES12	PID=0.0ppm						
2.10								
2.10								
3.00		SPT(S) N=13 (3,3/3,3,3,4)						
3.00 - 3.45	D14							
3.00 - 4.00	B13	PID=0.0ppm						
3.10								
4.00		SPT(S) N=17 (3,4/4,4,4,5)		(3.45)				
4.00 - 4.45	D15							
5.00		SPT(S) N=22 (3,4/5,5,6,6)						
				5.45	End of Borehole at 5.45m			

Dynamic Sample Recovery					Remarks:									
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m.									
1.20	2.00		100											
2.00	3.00		85											
3.00	4.00		100											
4.00	5.00		100											
					SPT Hammer: DART508 Energy Ratio: 68%									
					Water Strikes				Monitoring Installations					
					Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
					1.50			0	1.50		0.00	1.50	Plain	
											1.50	2.00	Slotted	
Checked by: MHW		IFA DS v01.01												
Log status: DRAFT														



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS106
Dates: 14/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.20	D2			0.05	MADE GROUND: Tarmacadam.			
0.20	ES1			(0.55)	MADE GROUND: Yellowish grey, slightly clayey, fine to coarse SAND and angular to subangular, fine to coarse GRAVEL including sandstone.			
0.20		PID=0.0ppm						
0.50	ES3			0.60	Stiff, brown, slightly sandy, slightly gravelly CLAY. Gravel is subangular to rounded, fine and medium including sandstone, mudstone, quartzite and mixed igneous lithologies.			
0.50		PID=0.0ppm						
1.00	ES4						1	
1.00		PID=0.0ppm						
1.20		SPT(S) N=21 (3,3/5,5,5,6)						
1.20 - 1.65	D5							
1.50	D6							
2.00		SPT(S) N=27 (5,5/5,5,7,10)						
2.00	ES7						2	
2.00 - 2.45	D8							
2.00	D9							
2.50		PID=0.0ppm						
3.00		SPT(S) N=25 (5,4/4,5,8,8)		(4.85)				
3.00	ES10						3	
3.00 - 3.45	D11							
3.00	D12							
3.50		PID=0.0ppm						
4.00		SPT(S) N=20 (4,4/4,5,5,6)						
4.00 - 4.45	D13						4	
4.50	D14							
5.00		SPT(S) N=20 (3,4/3,5,6,6)						
				5.45	End of Borehole at 5.45m		5	
							6	
							7	
							8	
							9	
							10	

Dynamic Sample Recovery					Remarks:									
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m.									
1.20	2.00		100											
2.00	3.00		100											
3.00	4.00		100											
4.00	5.00		100											
					SPT Hammer: DART508 Energy Ratio: 68%									
					Water Strikes				Monitoring Installations					
					Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
					0.60			0	0.60		0.00	0.60	Plain	
											0.60	5.00	Slotted	
Checked by: MHW		IFA DS v01.01												
Log status: DRAFT														



Plant used: Hand tools	Project: Glan Clwyd Hospital		Location ID: WS107		
Dates: 14/10/2021	Client: Bam Construction Ltd				
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP	Vertical scale: 1:50	Sheet 1 of 1
					Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
				0.10	MADE GROUND: Tarmacadam. End of Borehole at 0.10m			
							1	
							2	
							3	
							4	
							5	
							6	
							7	
							8	
							9	
							10	

Dynamic Sample Recovery					Remarks:									
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Borehole terminated under client's instruction due to ingress of water in pit and close proximity to buried services.									
					Water Strikes			Monitoring Installations						
					Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
Checked by:		MHW		IFA DS v01.01										
Log status:		DRAFT												



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS108
Dates: 14/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.20	D2			0.05	MADE GROUND: Tarmacadam.			
0.20	ES1			0.20	MADE GROUND: Concrete.			
0.20		PID=0.0ppm		0.45	MADE GROUND: Light grey, slightly clayey, fine to coarse SAND and angular to subrounded, fine to coarse GRAVEL including sandstone and quartzite.			
0.45 - 1.10	B3			(0.65)	MADE GROUND: Very stiff, dark brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including sandstone, mudstone and mixed igneous lithologies.			
0.50	D5			1.10	Stiff to very stiff, brown mottled grey, slightly sandy, slightly gravelly CLAY. Gravel is subrounded to rounded, fine and medium including mudstone.			
0.50	ES4	PID=0.0ppm						
1.00	ES6	PID=0.0ppm						
1.00		PID=0.0ppm						
1.20	ES7	SPT(S) N=11 (2,3/3,2,3,3)						
1.20	D8							
1.20 - 1.65		PID=0.0ppm						
1.50	D9							
2.00		SPT(S) N=17 (3,3/3,4,5,5)						
2.00 - 2.45	D10			(2.35)				
2.20	ES11	PID=0.0ppm						
2.20		PID=0.0ppm						
2.50	D12							
3.00		SPT(S) N=54 (5,7/12,13,14,15)						
3.00 - 3.45	D13			3.45	End of Borehole at 3.45m			

Dynamic Sample Recovery					Remarks:							
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m. Window sample hole terminated due to SPT refusal.							
1.20	2.00		100									
2.00	3.00		75									
					SPT Hammer: DART508 Energy Ratio: 68%							
					Water Strikes				Monitoring Installations			
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)			
1.20			20	1.20		0.00	1.10	Plain				
						1.10	3.00	Slotted				
Checked by:	MHW		IFA DS									
Log status:	DRAFT		v01.01									



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS109
Dates: 14/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.20	D2	PID=0.0ppm		0.05	MADE GROUND: Tarmacadam.			
0.20	ES1			(0.40)	MADE GROUND: Orange brown, slightly clayey, fine to coarse SAND and angular to subangular, fine to coarse GRAVEL including sandstone.			
0.20	D4			0.45				
0.50	ES3	PID=0.0ppm		(0.45)	Firm, locally stiff, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded, fine to coarse including sandstone, mudstone and quartzite.	1		
0.50	ES5			0.90	Stiff, locally very stiff, brown CLAY.			
1.00		PID=0.0ppm SPT(S) N=12 (3,3/3,3,3,3)						
1.00	D6							
1.20 - 1.65	D7			(1.55)				
2.00		SPT(S) N=51 (5,6/12,12,13,14)						
2.00	ES8							
2.00 - 2.45	D9	PID=0.0ppm			End of Borehole at 2.45m			
2.00								

Dynamic Sample Recovery					Remarks:					
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m. Window sample hole terminated due to SPT refusal.					
0.00	1.00		100		SPT Hammer: DART508 Energy Ratio: 68%					
					Water Strikes			Monitoring Installations		
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)	
						0.00	0.50	Plain		
						0.50	2.00	Slotted		
Checked by:	MHW	IFA DS								
Log status:	DRAFT	v01.01								



Plant used:	Project: Glan Clwyd Hospital		Location ID: WS110
Dates: 14/10/2021	Client: Bam Construction Ltd		Sheet 1 of 1
Dynamic Sample Borehole Log	Location:	Ground level:	Logged by: MP Vertical scale: 1:50 Project ID: 2230534

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/Installation
0.10	D1	PID=0.0ppm		0.05	MADE GROUND: Tarmacadam.			
0.10								
0.20	ES2	PID=0.0ppm		0.30	MADE GROUND: Orange brown, very sandy, slightly clayey, angular to subangular, fine to coarse GRAVEL including sandstone and quartzite.			
0.40	D4							
0.40	ES3	PID=0.0ppm			Stiff, brown mottled greyish blue, slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded, fine and medium including mudstone, quartzite and sandstone.			
0.40								
1.00	ES5	PID=0.0ppm					1	
1.00								
1.20		SPT(S) N=18 (3,4/4,4,5,5)						
1.50	D6			(2.65)				
2.00								
2.00	ES7	SPT(S) N=32 (5,5/6,9,8,9)					2	
2.00		PID=0.0ppm						
2.50		SPT(S) N=51 (9,10/12,13,13,13)						
				2.95	End of Borehole at 2.95m		3	
							4	
							5	
							6	
							7	
							8	
							9	
							10	

Dynamic Sample Recovery					Remarks:				
Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks	Service inspection pit hand excavated from GL to 1.20m. Window sample hole terminated due to SPT refusal.				
1.20	2.00		100						
2.00	3.00		0						
					SPT Hammer: DART508 Energy Ratio: 68%				
					Water Strikes			Monitoring Installations	
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)
						0.00	0.50	Plain	
						0.50	2.50	Slotted	
Checked by:	MHW	IFA DS							
Log status:	DRAFT	v01.01							

Trial Pit Records (Hand Excavated)



Plant used:	Hand tools	Project:	Glan Clwyd Hospital	Location ID:	TP101
Dates:	13/10/2021	Client:	Bam Construction Ltd	Sheet 1 of 1	
Trial Pit Log		Location:	Ground level:	Logged by:	Vertical scale:
				MP	1:25
Contract ID: 2230534					

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
0.05	D2				MADE GROUND: Light orange, fine to coarse SAND and angular to rounded, fine to coarse GRAVEL including sandstone, mudstone, slate and brick.				
0.05	ES1	PID=0.0ppm		0.15					
0.20	D4				MADE GROUND: Soft, light brown, very sandy CLAY.				
0.20	ES3	PID=0.0ppm		0.25					
0.30	D6			(0.35)	MADE GROUND: Greyish brown, slightly clayey, fine to coarse SAND and angular to subrounded, fine to coarse GRAVEL including brick, slate, mudstone, sandstone and quartzite.				
0.30	ES5	PID=0.0ppm		0.60					
0.70	ES7			(0.60)	MADE GROUND: Soft locally firm, dark reddish brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including slate, mudstone, sandstone and wood.				
0.70		PID=0.0ppm		1.20					
1.00	D8				End of Trial Pit at 1.20m				

Termination:			Stability:			Remarks:		
			Trial pit remained stable during excavation.			No groundwater encountered.		
Dimensions (Length m x Width m):								
0.30 x 0.30								
Water Strikes								
Strike (m)	Time (mins)	Rose to (m)	Remarks					
				Checked by:		MHW		IFA TP v01.01
				Status:		DRAFT		

Trial Pit Photographs TP101



Trial Pit Photographs TP101





Plant used: Hand tools	Project: Glan Clwyd Hospital		Location ID: TP102
	Client: Bam Construction Ltd		
Dates: 13/10/2021		Ground level:	Contract ID: 2230534
Location:		Logged by: MP	Vertical scale: 1:25

Samples & In Situ Testing			Strata Details				Scale	Water Strike	Backfill/ Installation
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend			
0.05	ES1	PID=0.0ppm			MADE GROUND: Dark grey, very gravelly, very clayey, fine and medium SAND with abundant rootlets. Gravel is angular to subrounded, fine and medium including slate, brick, sandstone, mudstone.				
0.05	ES2	PID=0.0ppm		0.18					
0.10					MADE GROUND: Light grey, slightly clayey, fine to coarse SAND and angular to subrounded, fine to coarse GRAVEL including brick, tarmacadam, slate, flint and sandstone.				
0.10	ES3	PID=0.0ppm		(0.32)					
0.20					At 0.18m: <i>geotextile membrane</i> .				
0.20	D4	PID=0.0ppm		0.50					
0.30					MADE GROUND: Blueish grey, very sandy, angular to subangular, fine to coarse GRAVEL including slate, mudstone, sandstone and brick.				
0.30	ES5	PID=0.0ppm		(0.30)					
0.55					MADE GROUND: Very soft brown, sandy, gravelly SILT locally becoming very clayey, fine sand. Gravel is angular to rounded, fine to coarse including slate, sandstone and mudstone.				
0.55	D6	PID=0.0ppm		0.80					
0.70					End of Trial Pit at 1.20m				
0.70	ES7	PID=0.0ppm		(0.40)					
0.85									
0.85	D8	PID=0.0ppm		1.20					
1.00									

Termination:			Stability: Trial pit remained stable during excavation.		Remarks: No groundwater encountered.		
Dimensions (Length m x Width m): 0.25 x 0.30							
Water Strikes							
Strike (m)	Time (mins)	Rose to (m)	Remarks				
				Checked by:		MHW	
				Status:		DRAFT	
IFA TP v01.01							

**Trial Pit Photographs
TP102**



Trial Pit Photographs TP102



Trial Pit Records (Machine Excavated)



Plant used: JCB 3CX	Project: Glan Clwyd Hospital	Location ID: TP104
Dates: 15/10/2021	Client: Bam Construction Ltd	Sheet 1 of 1
Trial Pit Log	Location:	Ground level: Logged by: MP
		Vertical scale: 1:25
		Contract ID: 2230534

Samples & In Situ Testing			Strata Details					Scale	Water Strike	Backfill/ Installation
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend				
0.00 - 0.25 0.10 0.10	B1 D3 ES2	PID=0.0ppm		0.25	MADE GROUND: Grass over, greyish brown, very gravelly, clayey, fine and medium SAND. Gravel is angular to subrounded, fine to coarse including brick, metal, timber, slate, sandstone and mudstone.					
0.26 - 0.60 0.30 0.30	B4 D6 ES5		PID=0.0ppm		(0.35)					MADE GROUND: Greyish brown, very gravelly, clayey, very silty, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including brick, metal, timber, slate, sandstone and mudstone.
0.60 - 1.05 0.70 0.70 0.70	B7 D9 ES8	PID=0.0ppm		0.60 (0.45)	At 0.25m: <i>geotextile membrane.</i> MADE GROUND: Brown, gravelly, clayey, very silty, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone, quartzite, mudstone flint and quartz.				1	
1.05 - 1.50 1.10 1.10 1.10	B10 D12 ES11		PID=0.0ppm		(0.45)					Firm locally stiff, orange brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine and medium including sandstone, mudstone and quartzite.
1.50 - 2.50 1.60 1.60 1.60	B13 D15 ES14	PID=0.0ppm		1.50	Firm locally stiff, reddish brown mottled greyish blue, slightly gravelly, sandy CLAY. Gravel is subangular to rounded, fine and medium including sandstone, mudstone, quartzite and mixed igneous lithologies.				2	
2.50 - 3.50 2.60 2.60 2.60	B16 D18 ES17		PID=0.0ppm		(2.00)					At 2.50m: <i>becomes stiff locally firm.</i>
				3.50	End of Trial Pit at 3.50m				3	
									4	
									5	

Termination:	Stability: Trial pit remained stable during excavation.	Remarks: No groundwater encountered.
Dimensions (Length m x Width m): 1.70 x 0.50		
Water Strikes		
Strike (m)	Time (mins)	Rose to (m)
Remarks		
Checked by:	MHW	IFA TP v01.01
Status:	DRAFT	

**Trial Pit Photographs
TP104**



**Trial Pit Photographs
TP104**



Trial Pit Photographs TP104



Gas and Groundwater Monitoring



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	
Client:	BAM	Date:	09/10/21	Visit:	1

Atmospheric Readings:	O ₂ % v/v :	NA	CO ₂ % v/v :	NA	CH ₄ % v/v :	NA	Weather Conditions : Not recorded														Readings by:	LT
	H ₂ S ppm :	NA	CO ppm :	NA	Pressure trend :	NA	Ground Conditions : Not recorded														Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth	
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)	
WS104	11:39	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NR	0.47	NR	2.27
WS105	NR	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NR	1.33	NR	2.00	
WS106	NR	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NR	0.49	NR	4.35	
WS108	NR	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NR	0.48	NR	2.14	

Remarks :
 WS101, WS102, WS103, WS109 and WS110 were not monitored

Symbols:
 >>>> denotes flow above upper limit of detection (>30l/hr)
 <<<< denotes negative flow below lower limit of detection (<-10l/hr)
 >Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	02/11/21	Visit:	2

Atmospheric Readings:	O ₂ % v/v :	20.1	CO ₂ % v/v :	0.0	CH ₄ % v/v :	0.0	Weather Conditions :	Warm, dry, sunny	Readings by:	MP
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :	Steady	Ground Conditions :	Damp	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth	
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)
WS101	11:50	50	997	0.03	0.0	0.0	19.6	19.6	1.1	1.1	0.0	0.0	NR	NR	0.0	0.0	5.0	1.0	NR	NR	ND	1.50	ND	4.00	
WS102	NR	50	997	-0.02	1.6	1.1	19.2	19.2	1.6	1.6	0.1	0.1	NR	NR	0.0	0.0	4.0	4.0	NR	NR	ND	1.05	ND	3.96	
WS103	NR	50	997	-0.02	0.0	0.0	14.7	14.8	0.2	0.2	0.0	0.0	NR	NR	0.0	0.0	6.0	1.0	NR	NR	ND	0.80	ND	1.70	
WS104	12:10	50	997	0.02	0.0	0.0	18.9	19.7	1.1	0.3	0.0	0.0	NR	NR	0.0	0.0	3.0	0.0	NR	NR	ND	0.37	ND	2.23	
WS105	11:30	50	997	0.03	-1.6	-1.5	16.7	16.7	3.1	3.1	0.0	0.0	NR	NR	0.0	0.0	4.0	3.0	NR	NR	ND	0.87	ND	2.00	
WS106	NR	50	997	-0.05	4.7	3.4	18.7	18.7	0.7	0.7	0.0	0.0	NR	NR	0.0	0.0	4.0	3.0	NR	NR	ND	0.39	ND	4.23	
WS108	NR	50	997	0.02	0.0	0.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	0.52	ND	2.12	
WS109	NR	50	997	0.02	0.0	0.0	20.6	20.9	0.1	0.1	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	NR	NR	ND	Dry	ND	1.86	

Remarks :

WS108 Water sucked up through tube, gas measurements not taken.

WS109 Gas tap left open- readings may be misrepresentative

WS110 Could not access due to car parked above.

Symbols:

>>>> denotes flow above upper limit of detection (>30l/hr)

<<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	18/01/22	Visit:	3

Atmospheric Readings:	O ₂ % v/v :	21.1	CO ₂ % v/v :	0.0	CH ₄ % v/v :	0.0	Weather Conditions :	Fair	Readings by:	JB
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :		Ground Conditions :	Dry	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL (mbgl)	Water Depth (mbgl)	Depth to DNAPL (mbgl)	Well Depth (mbgl)
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady				
WS101	11:30:00	50	1033	NR	0.0	0.0	20.5	20.5	1.0	1.0	0.0	0.0	NR	NR	0.0	0.0	2.0	0.0	NR	NR	NR	1.53	NR	4.00
WS102	12:35:00	50	1035	NR	7.3	7.3	15.6	14.9	1.5	1.5	0.3	0.1	NR	NR	1.0	0.0	4.0	4.0	NR	NR	NR	1.20	NR	3.95
WS103	12:22:00	50	1035	NR	0.0	0.0	2.7	10.4	0.3	0.1	5.9	3.6	NR	NR	0.0	0.0	1.0	0.0	NR	NR	NR	0.93	NR	1.70
WS104	11:46:00	50	1035	NR	0.0	0.0	20.8	21.1	1.1	0.5	0.0	0.0	NR	NR	0.0	0.0	2.0	0.0	NR	NR	NR	0.70	NR	2.23
WS105	12:05:00	50	1035	NR	-0.8	-0.8	16.2	16.2	3.0	3.0	0.1	0.0	NR	NR	0.0	0.0	2.0	1.0	NR	NR	NR	1.10	NR	1.92
WS106	13:26:00	50	1034	NR	0.0	0.0	13.1	13.1	0.9	0.9	0.1	0.0	NR	NR	0.0	0.0	3.0	3.0	NR	NR	NR	0.53	NR	4.35
WS108	12:57:00	50	1034	NR	0.0	0.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.62	NR	2.12
WS109	13:17:00	50	1034	NR	0.0	0.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.56	NR	1.85

Remarks :

WS108 pump flow failure, gas measurements unable to be taken.

WS109 unable to take readings due to loose valve.

Symbols:

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :					Glan Clwyd Hospital														Project number: 2230534		Equipment: GA5000					
Client:					BAM														Date: 21/01/22		Visit: 4					
Atmospheric Readings:					O ₂ % v/v : 21.1		CO ₂ % v/v : 0.1		CH ₄ % v/v : 0.0		Weather Conditions : Overcast, dry										Readings by: JB					
					H ₂ S ppm : 0		CO ppm : 0		Pressure trend :		Ground Conditions : Dry										Checked by: MHW					
Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth		
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
WS101	11:06:00	50	1040	-0.02	0.0	0.0	21.4	21.4	1.0	1.0	0.0	0.0	NR	NR	0.0	0.0	1.0	0.0	NR	NR	NR	1.54	NR	4.00		
WS102	11:16:00	50	1040	-0.15	-4.6	0.3	20.7	20.8	0.8	0.7	0.0	0.0	NR	NR	0.0	0.0	1.0	1.0	NR	NR	NR	1.07	NR	3.94		
WS103	10:22:00	50	1038	-4.18	-0.8	-0.1	5.1	8.5	0.4	0.3	0.3	0.2	NR	NR	0.0	0.0	0.0	0.0	NR	NR	NR	1.09	NR	1.70		
WS104	10:57:00	50	1040	-0.26	0.0	0.0	21.5	21.8	0.6	0.2	0.0	0.0	NR	NR	0.0	0.0	1.0	0.0	NR	NR	NR	0.78	NR	2.2		
WS105	10:45:00	50	1040	-2.27	-3.0	-0.5	18.9	18.9	2.4	2.4	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	NR	NR	NR	0.54	NR	1.9		
WS108	13:29:00	50	1041	-0.50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.66	NR	2.13		
WS109	13:40:00	50	1041	-0.52	6.4	0.1	18.2	18.2	0.1	0.0	0.0	0.0	NR	NR	0.0	0.0	1.0	0.0	NR	NR	NR	0.57	NR	1.86		
WS110	13:53:00	50	1039	-0.52	0.1	0.1	5.6	22.7	0.1	0.1	0.0	0.0	NR	NR	0.0	0.0	8.0	0.0	NR	NR	NR	0.38	NR	1.79		
Remarks :																										
WS02 Flow rising from -4.6 to -0.																										
WS106 Could not access due to car parked above.																										
WS108 pump flow failure, gas measurements unable to be taken.																										
Symbols:																										
>>>>> denotes flow above upper limit of detection (>30l/hr)																										
<<<<< denotes negative flow below lower limit of detection (<-10l/hr)																										
>Max denotes in excess of lower explosive limit																										



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	24/01/22	Visit:	5

Atmospheric Readings:	O ₂ % v/v :	20.9	CO ₂ % v/v :	0.1	CH ₄ % v/v :	0.0	Weather Conditions :	Cold, overcast, dry	Readings by:	FH
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :		Ground Conditions :	Dry	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth			
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)	
WS101	10:00:00	50	1033	-0.03	0.0	0.0	20.3	20.4	1.0	1.0	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ND	1.58	ND	4.01	
WS103	08:45:00	50	1033	-0.09	0.0	0.0	3.5	6.5	0.5	0.4	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ND	1.17	ND	1.68	
WS104	10:15:00	50	1033	0.00	0.1	0.1	20.2	20.7	0.8	0.1	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	ND	0.86	ND	2.27	
WS105	10:25:00	50	1033	0.02	-1.6	-0.2	18.6	18.6	2.2	2.2	0.0	0.0	NR	NR	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	ND	1.34	ND	1.96	
WS106	15:40:00	50	1033	-0.02	-0.3	-0.2	19.7	20.3	1.2	0.4	0.0	0.0	NR	NR	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	ND	0.56	ND	4.36	
WS108	16:00:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.81	NR	2.15	
WS109	14:35:00	50	1033	0.09	2.4	0.1	17.8	17.8	0.1	0.1	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	0	0	0	0	ND	0.62	ND	1.87	

Remarks :

WS108 Pump flow failure at 10 seconds due to blocked bung. Bung replaced

WS109 Pump failure at 100 seconds.

Symbols:

>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	25/01/22	Visit:	5

Atmospheric Readings:	O ₂ % v/v :	20.9	CO ₂ % v/v :	0.1	CH ₄ % v/v :	0.0	Weather Conditions :	Cold, overcast, dry	Readings by:	FH
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :		Ground Conditions :	Dry	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth	
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)
WS102	10:00:00	50	1034	0.02	-3.4	-0.2	20.1	20.4	0.8	0.6	0.0	0.0	NR	NR	0.0	0.0	0.0	1.0	0.0	0.0	ND	1.12	ND	3.95	
WS108	10:40:00	50	1034	0.07	0.0	0.1	20.6	20.7	0.4	0.1	0.0	0.0	NR	NR	0.0	0.0	0.0	1.0	0.0	0.0	ND	0.55	ND	2.15	
WS110	08:30:00	50	1034	0.57	-0.1	-0.1	20.3	20.7	0.1	0.1	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	0.0	0.0	ND	0.18	ND	1.82	

Remarks :

WS108 Pump flow failure at 10 seconds due to blocked bung. Bung replaced

WS109 Pump failure at 100 seconds.

Symbols:

>>>> denotes flow above upper limit of detection (>30l/hr)

<<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	14/02/22	Visit:	6

Atmospheric Readings:	O ₂ % v/v :	20.3	CO ₂ % v/v :	0.0	CH ₄ % v/v :	0.0	Weather Conditions :	Wet	Readings by:	BL
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :		Ground Conditions :	hardstanding	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth	
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)
WS101	09:59:00	50	996	14.00	0.0	0.0	21.2	21.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	NR	1.97	NR	4.00	
WS102	10:59:00	50	998	4.55	0.0	0.0	19.7	19.7	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	NR	0.87	NR	3.85	
WS104	11:18:00	50	996	0.40	0.0	0.0	20.1	20.3	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	NR	0.48	NR	1.43	
WS105	10:23:00	50	996	0.27	0.3	0.2	20.9	20.9	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	NR	1.22	NR	2.00	
WS106	09:00:00	50	995	0.19	0.0	0.0	18.0	18.8	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0	0.0	0.0	NR	0.45	NR	4.36	
WS108	09:33:00	50	995	-0.45	0.0	0.0	21.4	21.7	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	NR	0.22	NR	2.14	
WS109	11:42:00	50	998	-0.14	0.0	0.0	18.5	18.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	NR	1.32	NR	1.84	
WS110	08:30:00	50	995	0.38	0.8	0.0	21.1	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	NR	1.40	NR	1.79	

Remarks :
 WS103 Could not access due to car parked above.

Symbols:
 >>>> denotes flow above upper limit of detection (>30l/hr)
 <<<< denotes negative flow below lower limit of detection (<-10l/hr)
 >Max denotes in excess of lower explosive limit



GAS AND GROUNDWATER MONITORING RESULTS

Project name :	Glan Clwyd Hospital	Project number:	2230534	Equipment:	GA5000
Client:	BAM	Date:	22/02/22	Visit:	7

Atmospheric Readings:	O ₂ % v/v :	21.0	CO ₂ % v/v :	0.1	CH ₄ % v/v :	0.0	Weather Conditions :	NR	Readings by:	JB
	H ₂ S ppm :	0	CO ppm :	0	Pressure trend :		Ground Conditions :	NR	Checked by:	MHW

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O ₂ (% v/v)		CO ₂ (% v/v)		CH ₄ (% v/v)		CH ₄ (% LEL)		H ₂ S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth	
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)	
WS101	11:07:00	50	1011	0.15	0.1	0.1	20.3	20.3	1.2	1.2	0.0	0.0	NR	NR	0.0	0.0	0.0	0.0	NR	NR	NR	1.73	NR	4.00	
WS102	12:01:00	50	1014	3.54	4.8	3.0	19.6	19.6	1.4	1.4	0.1	0.1	NR	NR	1.0	0.0	2.0	1.0	NR	NR	NR	0.77	NR	3.95	
WS103	10:53:00	50	1013	0.38	0.3	0.0	1.1	1.1	0.2	0.2	0.5	0.5	NR	NR	2.0	1.0	1.0	0.0	NR	NR	NR	0.83	NR	1.70	
WS104	11:18:00	50	1012	-4.85	0.1	0.1	20.9	21.1	0.6	0.2	0.0	0.0	NR	NR	1.0	0.0	1.0	0.0	NR	NR	NR	0.39	NR	1.32	
WS105	11:35:00	50	1013	5.45	8.6	3.6	19.2	19.2	1.8	1.8	0.0	0.0	NR	NR	1.0	1.0	1.0	0.0	NR	NR	NR	0.90	NR	1.95	
WS106	13:01:00	50	1016	1.74	3.7	1.5	21.6	21.6	0.3	0.3	0.0	0.0	NR	NR	2.0	2.0	2.0	2.0	NR	NR	NR	0.20	NR	4.35	
WS108	12:33:00	50	1015	0.30	-0.2	-0.2	20.1	20.7	1.2	0.7	0.1	0.0	NR	NR	2.0	1.0	1.0	1.0	NR	NR	NR	0.35	NR	2.13	
WS109	12:47:00	50	1016	0.09	8.4	-0.1	19.9	19.9	0.0	0.0	0.0	0.0	NR	NR	1.0	1.0	0.0	0.0	NR	NR	NR	1.03	NR	1.85	

Remarks :
 WS110 Could not access due to car parked above.

Symbols:
 >>>>> denotes flow above upper limit of detection (>30l/hr)
 <<< denotes negative flow below lower limit of detection (<-10l/hr)
 >Max denotes in excess of lower explosive limit

Groundwater Quality

Contract Number:		2230534							
Contract Name:		Glan Clwyd Hospital							
Date:		24/01/2022							
Weather Conditions:		Cold, overcast, dry							
Borehole Number	SWL	LNAPL DNAPL	pH	Temperature	Redox Potential	Dissolved Oxygen	Electrical Conductivity	Turbidity	
	mBGL	mBGL		°C Steady	mv	mg/l	µs/cm	NTU	
WS101									
1L	1.17	ND	8.52	9.80	-184.7	0.00	1014	513	
5L	3.51	ND	8.45	10.40	-146.8	0.89	1021	2324	
9L	8.86	ND	8.76	9.70	-125.1	1.71	977	>1050	
WS103									
1L	1.17	ND	9.24	7.75	-167.7	0.68	946	>1050	
2L	1.53	ND	9.19	7.90	-138.2	2.91	944	1511	
3L	1.60	ND	9.24	7.80	-123.7	4.24	954	>1050	
WS104									
1L	0.86	ND	8.77	7.90	-191.1	0.00	879	491	
2L	0.96	ND	8.78	7.90	-175.1	0.00	876	3082	
4L	0.91	ND	8.86	7.65	-119.8	0.37	886	1817	
6L	0.97	ND	8.85	7.60	-115.6	1.04	879	>1050	
8L	0.98	ND	8.84	7.63	-119.1	0.71	876	>1050	
10L	0.98	ND	8.80	7.70	-124.2	0.36	876	>1050	
WS105									
1L	1.34	ND	8.10	8.10	-113.1	2.45	928	487	
2L	1.89	ND	8.30	8.30	-115.4	2.75	929	1737	
WS109									
1L	0.62	ND	10.55	6.90	-202.1	0.59	2032	NR	
2L	1.04	ND	10.32	7.20	-202.3	0.35	2183	NR	
3L	1.49	ND	10.17	7.40	-201.9	0.31	2267	NR	
4L	1.66	ND	10.01	7.60	-169.5	1.82	2293	1605	
5L	1.76	ND	9.94	7.70	-143.1	2.89	2295	2363	
WS103									
1L	1.17	ND	9.24	7.75	-167.7	0.68	946	>1050	
2L	1.53	ND	9.19	7.90	-138.2	2.91	944	1511	
3L	1.60	ND	9.24	7.80	-123.7	4.24	954	>1050	
Remarks:									
WS101 sampled after 5 litres of water removed due to low water supply and slow recharge rate. Water was brown and silty.									
WS103 sampled immediately due to low water supply and slow recharge. Water was brown and silty.									
WS104 sampled after 9 liters of water removed. Water was brown and silty.									
WS105 sampled immediately due to low water supply and slow recharge. Water was brown and silty.									
WS110 sampled after 1 litre of water removed due to low water supply and slow recharge rate. Water was brown and silty.									
Readings Taken By:		FH							
Checked By:		MHW							

APPENDIX 3
GEOTECHNICAL TEST RESULTS

F.A.O.

Final Test Report - 2230534 / 1

Site: Glan Clwyd Hospital
 Job Number: 2230534
 Originating Client: BAM Construction Ltd
 Originating Reference: 2230534
 Date Sampled: 13/10/2021
 Date Scheduled: 04/11/2021
 Date Testing Started: 12/11/2021
 Date Testing Finished: 26/11/2021

Previous Reports	Amendments	Date Issued

Amendments:

Authorised By: 

Tim Robinson
Quality Supervisor

Report Issue Date: 26/11/2021

Site: Glan Clwyd Hospital

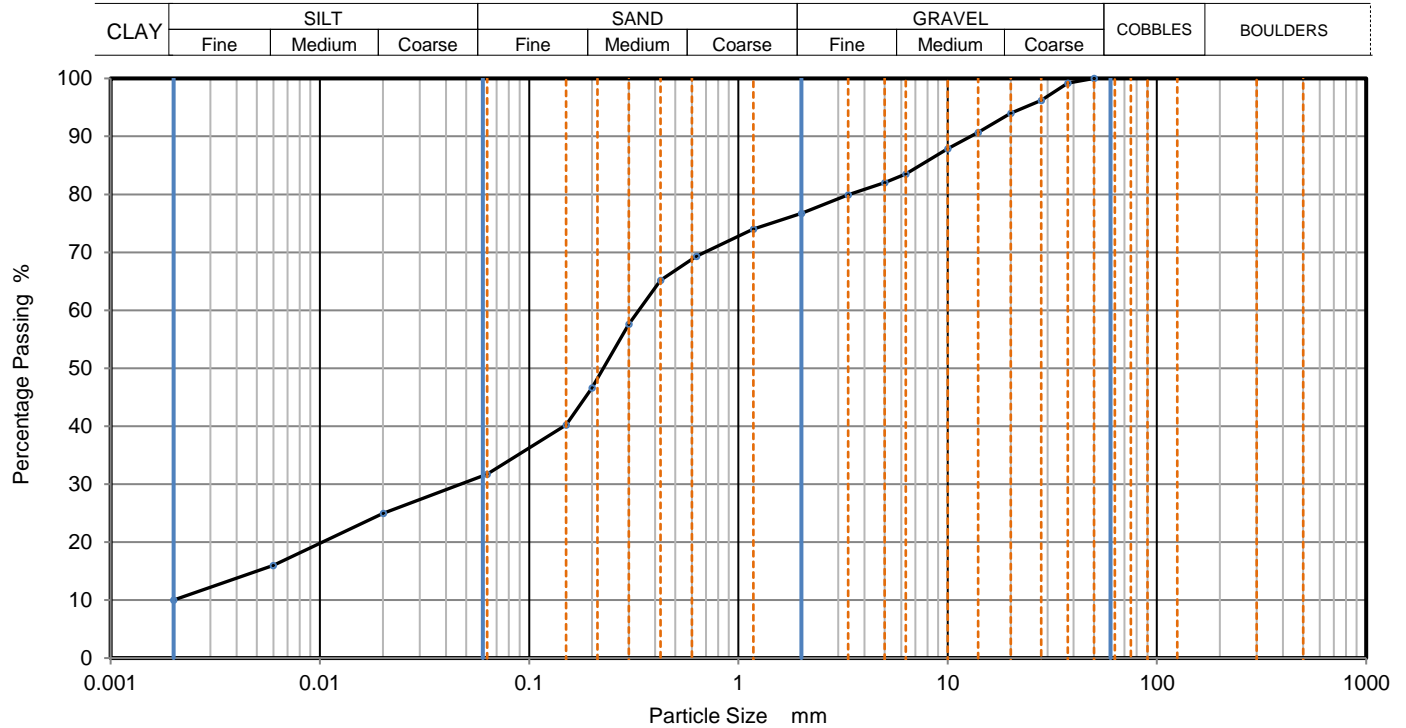
Job Number: 2230534

Client: BAM Construction Ltd

Page: 3

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP104	0.26	B4	Wet Sieve + Pipette	Brown clayey, silty, gravelly SAND (Topsoil)



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0201	25
		0.0060	16
		0.0020	10
50	100		
37.5	99		
28	96		
20	94		
14	91		
10	88		
6.3	84		
5	82		
3.35	80		
2	77		
1.18	74	Particle density (assumed) 2.65 Mg/m ³	
0.63	69		
0.425	65		
0.3	58		
0.2	47		
0.15	40		
0.063	32		

Dry Mass of sample, g
2874

Sample Proportions	% dry mass
Very coarse	0
Gravel	23
Sand	45
Silt	21
Clay	10

Grading Analysis		
D100	mm	50
D60	mm	0.335
D30	mm	0.0473
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test
 BS EN 17892:Part4:2016, clause 5.4.2 Preparation of samples for pipette test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method
 BS EN 17892:Part4:2016, clause 5.4.3 Determination of sedimentation by pipette method

Site: Glan Clwyd Hospital

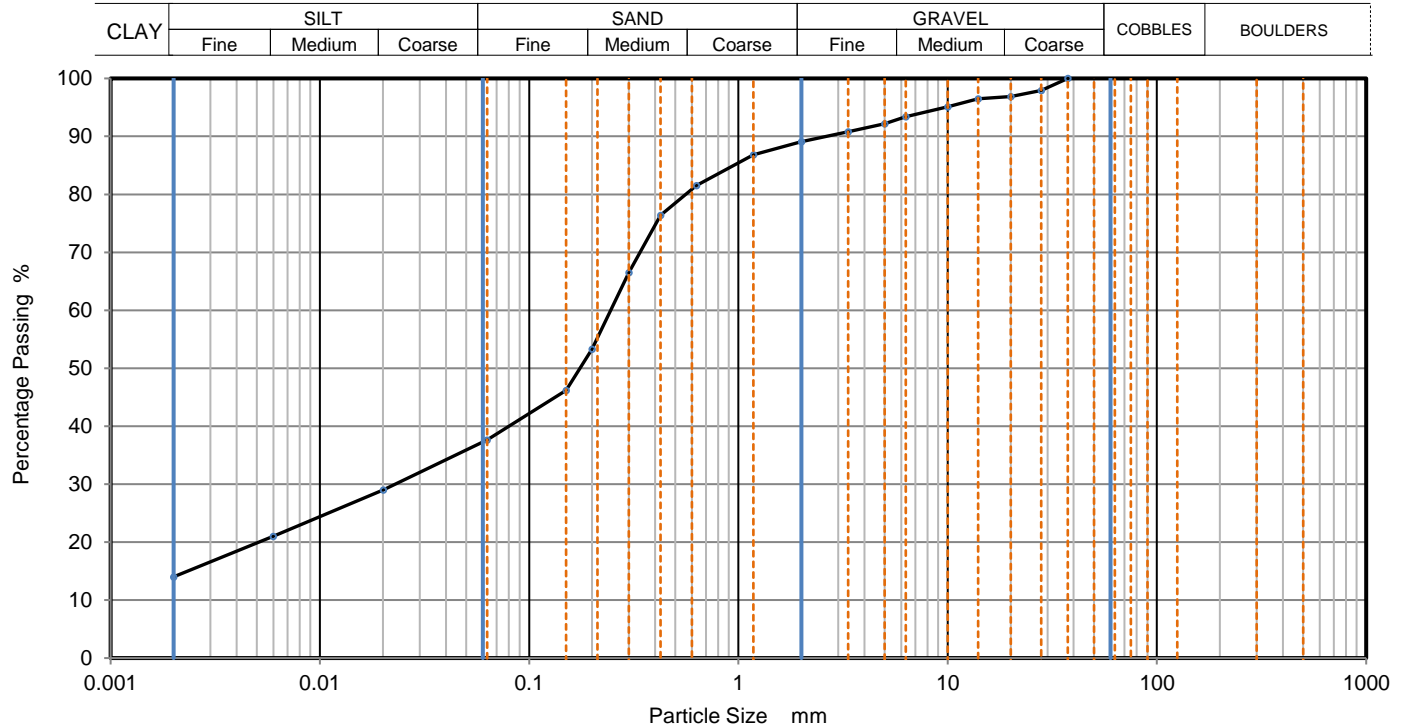
Job Number: 2230534

Client: BAM Construction Ltd

Page: 4

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
TP104	0.60	B7	Wet Sieve + Pipette	Brown gravelly, clayey, silty SAND (Topsoil)



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0201	29
		0.0060	21
		0.0020	14
37.5	100		
28	98		
20	97		
14	97		
10	95		
6.3	93		
5	92		
3.35	91		
2	89		
1.18	87	Particle density (assumed) 2.65 Mg/m ³	
0.63	82		
0.425	76		
0.3	67		
0.2	53		
0.15	46		
0.063	38		

Dry Mass of sample, g

2122

Sample Proportions	% dry mass
Very coarse	0
Gravel	11
Sand	52
Silt	24
Clay	14

Grading Analysis		
D100	mm	37.5
D60	mm	0.246
D30	mm	0.0232
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test
 BS EN 17892:Part4:2016, clause 5.4.2 Preparation of samples for pipette test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method
 BS EN 17892:Part4:2016, clause 5.4.3 Determination of sedimentation by pipette method



Final Test Report - 2230534 / 1

Site: Glan Clwyd Hospital
Job Number: 2230534
Originating Client: BAM Construction Ltd

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

This test report shall not be reproduced, except in full and only with the written permission of Ian Farmer Associates Ltd.

Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report Issue Date: 26/11/2021

APPENDIX 4
CHEMICAL TEST RESULTS

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/11537
Issue Number: 1
Date: 09 November, 2021

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant/Michelle Hirst-Watson
Project Name: Glan Clwyd Hospital
Project Ref: 2230534
Order No: P7529474
Date Samples Received: 15/10/21
Date Instructions Received: 25/10/21
Date Analysis Completed: 09/11/21

Approved by:



Michael Knight
Laboratory Manager

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref
Client Sample No	1	3	7	1	3	7	2			
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104			
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE			
% Stones >10mm _A	-	12.7	<0.1	<0.1	-	1.5	24.6			
pH _D ^{M#}	-	9.40	8.09	7.53	-	10.06	8.81	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	-	0.03	0.07	<0.05	-	<0.01	<0.01	g/l	0.01	A-T-026s
Total Organic Carbon _D ^{M#}	-	0.44	2.41	2.74	-	0.98	1.37	% w/w	0.03	A-T-032s
Antimony _D	-	<5	<5	<5	-	<5	<5	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	-	3	3	3	-	4	2	mg/kg	1	A-T-024s
Barium _D	-	111	165	227	-	263	82	mg/kg	1	A-T-024s
Boron (water soluble) _D	-	<1.0	1.0	1.2	-	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	-	0.6	1.2	0.9	-	1.7	0.6	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	-	17	17	16	-	16	19	mg/kg	1	A-T-024s
Chromium _D ^{M#}	-	27	27	27	-	27	18	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	-	27	27	27	-	27	18	mg/kg	1	Calc
Lead _D ^{M#}	-	34	105	137	-	141	41	mg/kg	1	A-T-024s
Mercury _D	-	0.66	<0.17	<0.17	-	<0.17	0.55	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	-	23	19	19	-	22	17	mg/kg	1	A-T-024s
Selenium _D ^{M#}	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	-	31	32	33	-	32	23	mg/kg	1	A-T-024s
Zinc _D ^{M#}	-	75	168	254	-	250	88	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1) _A	-	*	-	*	-	-	*			A-T-001
pH (leachable) _A [#]	-	7.82	-	7.61	-	-	7.66	pH	0.01	A-T-031w
Electrical Conductivity (leachable) _A	-	112	-	386	-	-	113	µs/cm	10	A-T-037w
Hardness Total (leachable) _A	-	289	-	69	-	-	101	mg/l Ca CO ₃	2	A-T-049w
Ammoniacal nitrogen as N (leachable) _A	-	<0.02	-	0.30	-	-	0.08	mg/l	0.02	A-T-033w
Sulphate (leachable) _A [#]	-	30.56	-	34.67	-	-	<1.00	mg/l	1	A-T-026w
DOC (leachable) _A [#]	-	1.1	-	89.7	-	-	1.3	mg/l	0.2	A-T-032w
Antimony (leachable) _A [#]	-	<1	-	2	-	-	<1	µg/l	1	A-T-025w
Arsenic (leachable) _A [#]	-	6	-	33	-	-	4	µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	17	-	35	-	-	<10	µg/l	10	A-T-025w
Barium (leachable) _A [#]	-	316	-	374	-	-	92	µg/l	1	A-T-025w
Cadmium (leachable) _A [#]	-	<1	-	<1	-	-	<1	µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	14	-	41	-	-	9	µg/l	1	A-T-025w
Chromium (leachable) _A [#]	-	<1	-	8	-	-	<1	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref
Client Sample No	1	3	7	1	3	7	2			
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104			
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE			
Chromium (hexavalent) (leachable) _A	-	<0.05	-	<0.05	-	-	<0.05			
Chromium (trivalent) (10:1 leachable)	-	<0.05	-	<0.05	-	-	<0.05	mg/l	0.05	Calc
Lead (leachable) _A [#]	-	63	-	256	-	-	20	µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	<0.1	-	<0.1	-	-	<0.1	µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	2	-	10	-	-	1	µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	<1	-	1	-	-	<1	µg/l	1	A-T-025w
Vanadium (leachable) _A [#]	-	11	-	68	-	-	5	µg/l	1	A-T-025w
Zinc (leachable) _A [#]	-	55	-	322	-	-	20	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

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Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref			
Client Sample No	1	3	7	1	3	7	2						
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104						
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10						
Depth To Bottom													
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21						
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES						
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE						
Asbestos in Soil (inc. matrix)													
Asbestos in soil [#]	NAD	NAD	-	NAD	NAD	-	NAD			A-T-045			
Asbestos Matrix (visual) _D	-	-	-	-	-	-	-			A-T-045			
Asbestos Matrix (microscope) _D	-	-	-	-	-	-	-			A-T-045			
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	-	N/A	N/A	-	N/A			A-T-045			

Envirolab Job Number: 21/11537

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Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref
Client Sample No	1	3	7	1	3	7	2			
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104			
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE			
PAH-16MS										
Acenaphthene _A ^{M#}	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	-	<0.02	<0.02	<0.02	-	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	-	<0.04	<0.04	<0.04	-	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	-	<0.04	<0.04	<0.04	-	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	-	<0.05	<0.05	<0.05	-	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	-	<0.07	<0.07	<0.07	-	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	-	<0.06	<0.06	<0.06	-	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	-	<0.04	<0.04	<0.04	-	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	-	<0.08	<0.08	<0.08	-	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	-	<0.03	<0.03	<0.03	-	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	-	<0.03	<0.03	<0.03	-	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	-	<0.03	<0.03	<0.03	-	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	-	<0.07	<0.07	<0.07	-	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	-	<0.08	<0.08	<0.08	-	<0.08	<0.08	mg/kg	0.01	A-T-019s

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Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref			
Client Sample No	1	3	7	1	3	7	2						
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104						
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10						
Depth To Bottom													
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21						
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES						
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE						
PAH 16MS (leachable)													
Acenaphthene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Acenaphthylene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Anthracene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Benzo(a)anthracene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Benzo(a)pyrene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Benzo(b)fluoranthene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Benzo(ghi)perylene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Benzo(k)fluoranthene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Chrysene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Dibenzo(ah)anthracene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Fluoranthene (leachable) _A	-	<0.02	-	0.04	-	-	<0.02	µg/l	0.02	A-T-019w			
Fluorene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Indeno(123-cd)pyrene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Naphthalene (leachable) _A	-	<0.02	-	<0.02	-	-	<0.02	µg/l	0.02	A-T-019w			
Phenanthrene (leachable) _A	-	0.07	-	0.05	-	-	0.02	µg/l	0.02	A-T-019w			
Pyrene (leachable) _A	-	<0.02	-	0.03	-	-	<0.02	µg/l	0.02	A-T-019w			
Total PAH 16MS (leachable) _A	-	0.07	-	0.12	-	-	0.02	µg/l	0.02	A-T-019w			

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Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	Units	Limit of Detection	Method ref
Client Sample No	1	3	7	1	3	7	2			
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104			
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE			
TPH CWG (leachable)										
Ali >C5-C6 (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
Ali >C6-C8 (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
Ali >C8-C10 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C10-C12 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C12-C16 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C16-C21 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C21-C35 (leachable) _A	-	<20	-	<20	-	-	<20	µg/l	20	A-T-055w
Total Aliphatics (leachable) _A	-	<20	-	<20	-	-	<20	µg/l	10	A-T-055w
Aro >C5-C7 (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C7-C8 (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C8-C10 (leachable) _A	-	<10	-	11	-	-	<10	µg/l	10	A-T-055w
Aro >C10-C12 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Aro >C12-C16 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Aro >C16-C21 (leachable) _A	-	<10	-	<10	-	-	<10	µg/l	10	A-T-055w
Total Aromatics (leachable) _A	-	<20	-	<20	-	-	<20	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C35) (leachable) _A	-	<20	-	<20	-	-	<20	µg/l	20	A-T-055w
BTEX - Benzene (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - Toluene (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - o Xylene (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
MTBE (leachable) _A	-	<1	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C21-C35 (leachable) _A	-	<20	-	<20	-	-	<20	µg/l	20	A-T-055w

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Client Sample No	1	3	7	1	3	7	2			
Client Sample ID	TP101	TP101	TP101	TP102	TP102	TP102	TP104			
Depth to Top	0.05	0.20	0.70	0.05	0.20	0.85	0.10			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	7	6A	6AE	6AE	7	6A	6AE			
TPH CWG										
Ali >C5-C6 _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	-	<1	4	9	-	<1	35	mg/kg	1	A-T-055s
Total Aliphatics _A	-	<1	4	9	-	<1	35	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12 _A	-	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	-	<1	<1	<1	-	<1	2	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	-	<1	<1	<1	-	<1	3	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	-	<1	4	7	-	<1	13	mg/kg	1	A-T-055s
Total Aromatics _A	-	<1	4	7	-	<1	18	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	-	<1	8	16	-	<1	53	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
% Stones >10mm _A	15.5	5.7	1.9	5.7	<0.1	2.6	-			
pH _D ^{M#}	6.69	8.71	9.66	8.67	9.21	8.29	-	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.02	<0.01	0.04	0.04	0.06	0.02	-	g/l	0.01	A-T-026s
Total Organic Carbon _D ^{M#}	1.36	2.02	0.16	0.96	0.23	1.41	-	% w/w	0.03	A-T-032s
Antimony _D	<5	<5	<5	<5	<5	<5	-	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	2	4	<1	2	1	3	-	mg/kg	1	A-T-024s
Barium _D	139	257	98	108	81	139	-	mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	1.1	<1.0	<1.0	<1.0	1.1	-	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	1.0	2.5	<0.5	1.0	<0.5	1.2	-	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	19	16	20	15	18	14	-	mg/kg	1	A-T-024s
Chromium _D ^{M#}	25	29	39	24	33	23	-	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-040s
Chromium (trivalent)	25	29	39	24	33	23	-	mg/kg	1	Calc
Lead _D ^{M#}	71	162	10	58	11	71	-	mg/kg	1	A-T-024s
Mercury _D	0.21	<0.17	0.79	0.23	0.38	<0.17	-	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	18	23	35	24	33	18	-	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	30	36	43	27	37	31	-	mg/kg	1	A-T-024s
Zinc _D ^{M#}	139	305	54	142	48	150	-	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1) _A	-	-	-	*	-	-	-			A-T-001
pH (leachable) _A [#]	-	-	-	7.65	-	-	-	pH	0.01	A-T-031w
Electrical Conductivity (leachable) _A	-	-	-	209	-	-	-	µs/cm	10	A-T-037w
Hardness Total (leachable) _A	-	-	-	108	-	-	-	mg/l Ca CO ₃	2	A-T-049w
Ammoniacal nitrogen as N (leachable) _A	-	-	-	0.03	-	-	-	mg/l	0.02	A-T-033w
Sulphate (leachable) _A [#]	-	-	-	32.69	-	-	-	mg/l	1	A-T-026w
DOC (leachable) _A [#]	-	-	-	8.9	-	-	-	mg/l	0.2	A-T-032w
Antimony (leachable) _A [#]	-	-	-	2	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable) _A [#]	-	-	-	4	-	-	-	µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	-	-	39	-	-	-	µg/l	10	A-T-025w
Barium (leachable) _A [#]	-	-	-	64	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable) _A [#]	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	-	-	7	-	-	-	µg/l	1	A-T-025w
Chromium (leachable) _A [#]	-	-	-	<1	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
Chromium (hexavalent) (leachable) _A	-	-	-	<0.05	-	-	-			
Chromium (trivalent) (10:1 leachable)	-	-	-	<0.05	-	-	-	mg/l	0.05	Calc
Lead (leachable) _A [#]	-	-	-	10	-	-	-	µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	-	-	<0.1	-	-	-	µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	-	-	2	-	-	-	µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable) _A [#]	-	-	-	4	-	-	-	µg/l	1	A-T-025w
Zinc (leachable) _A [#]	-	-	-	11	-	-	-	µg/l	1	A-T-025w

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	-	-	NAD	-	NAD	NAD			A-T-045
Asbestos Matrix (visual) _D	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	-	-	N/A	-	N/A	N/A			A-T-045

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	-	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	-	mg/kg	0.01	A-T-019s

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
PAH 16MS (leachable)										
Acenaphthene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable) _A	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
TPH CWG (leachable)										
Ali >C5-C6 (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable) _A	-	-	-	<20	-	-	-	µg/l	20	A-T-055w
Total Aliphatics (leachable) _A	-	-	-	<20	-	-	-	µg/l	10	A-T-055w
Aro >C5-C7 (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable) _A	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) _A	-	-	-	<20	-	-	-	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C35) (leachable) _A	-	-	-	<20	-	-	-	µg/l	20	A-T-055w
BTEX - Benzene (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
MTBE (leachable) _A	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable) _A	-	-	-	<20	-	-	-	µg/l	20	A-T-055w

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Lab Sample ID	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	Units	Limit of Detection	Method ref
Client Sample No	5	8	14	2	7	3	5			
Client Sample ID	TP104	TP104	TP104	WS101	WS101	WS102	WS102			
Depth to Top	0.30	0.70	1.60	0.20	2.00	0.45	0.70			
Depth To Bottom										
Date Sampled	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6A	6AE	6A	6A	6A	5A	6A			
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	5	<1	<1	21	7	3	-	mg/kg	1	A-T-055s
Total Aliphatics _A	5	<1	<1	21	7	3	-	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	<1	1	<1	<1	-	mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1	<1	<1	<1	-	mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	<1	1	<1	<1	-	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	<1	2	<1	<1	-	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	6	1	<1	14	3	3	-	mg/kg	1	A-T-055s
Total Aromatics _A	6	1	<1	19	3	3	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	10	1	<1	39	10	7	-	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s

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Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
% Stones >10mm _A	<0.1	<0.1	20.5	2.0	14.3	2.9	<0.1			
pH _D ^{M#}	8.36	9.25	8.80	9.28	8.48	3.64	9.08	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	<0.01	0.02	0.27	0.04	<0.01	<0.01	0.02	g/l	0.01	A-T-026s
Total Organic Carbon _D ^{M#}	0.23	0.20	0.41	0.21	0.41	2.07	0.21	% w/w	0.03	A-T-032s
Antimony _D	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	3	<1	2	6	3	3	<1	mg/kg	1	A-T-024s
Barium _D	113	95	98	113	82	93	191	mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	19	20	14	19	10	12	19	mg/kg	1	A-T-024s
Chromium _D ^{M#}	36	35	22	38	20	19	36	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	36	35	22	38	20	19	36	mg/kg	1	Calc
Lead _D ^{M#}	13	9	30	10	21	122	10	mg/kg	1	A-T-024s
Mercury _D	<0.17	0.45	0.86	0.59	<0.17	<0.17	0.30	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	40	34	19	37	16	15	35	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	37	38	25	42	25	28	38	mg/kg	1	A-T-024s
Zinc _D ^{M#}	46	51	67	57	39	289	56	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1) _A	-	-	*	-	*	*	-			A-T-001
pH (leachable) _A [#]	-	-	7.70	-	7.66	7.45	-	pH	0.01	A-T-031w
Electrical Conductivity (leachable) _A	-	-	254	-	165	176	-	µs/cm	10	A-T-037w
Hardness Total (leachable) _A	-	-	110	-	99	118	-	mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (leachable) _A	-	-	0.41	-	0.23	<0.02	-	mg/l	0.02	A-T-033w
Sulphate (leachable) _A [#]	-	-	329.82	-	2.27	<1.00	-	mg/l	1	A-T-026w
DOC (leachable) _A [#]	-	-	3.7	-	4.2	10.4	-	mg/l	0.2	A-T-032w
Antimony (leachable) _A [#]	-	-	2	-	<1	<1	-	µg/l	1	A-T-025w
Arsenic (leachable) _A [#]	-	-	3	-	3	2	-	µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	-	33	-	20	<10	-	µg/l	10	A-T-025w
Barium (leachable) _A [#]	-	-	55	-	108	103	-	µg/l	1	A-T-025w
Cadmium (leachable) _A [#]	-	-	<1	-	<1	<1	-	µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	-	4	-	12	7	-	µg/l	1	A-T-025w
Chromium (leachable) _A [#]	-	-	<1	-	<1	1	-	µg/l	1	A-T-025w

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Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
Chromium (hexavalent) (leachable) _A	-	-	<0.05	-	<0.05	<0.05	-			
Chromium (trivalent) (10:1 leachable)	-	-	<0.05	-	<0.05	<0.05	-	mg/l	0.05	Calc
Lead (leachable) _A [#]	-	-	<1	-	13	91	-	µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	-	<0.1	-	<0.1	<0.1	-	µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	-	1	-	2	2	-	µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	-	<1	-	<1	<1	-	µg/l	1	A-T-025w
Vanadium (leachable) _A [#]	-	-	3	-	5	4	-	µg/l	1	A-T-025w
Zinc (leachable) _A [#]	-	-	2	-	4	74	-	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

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Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref	
Client Sample No	7	17	3	13	4	2	6				
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105				
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3				
Depth To Bottom											
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A				
Asbestos in Soil (inc. matrix)											
Asbestos in soil [#]	-	-	NAD	-	NAD	NAD	-			A-T-045	
Asbestos Matrix (visual) _D	-	-	-	-	-	-	-				A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	-	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	-	-	N/A	-	N/A	N/A	-				A-T-045

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	mg/kg	0.01	A-T-019s

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Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
PAH 16MS (leachable)										
Acenaphthene (leachable) _A	-	-	<0.02	-	0.03	<0.02	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Anthracene (leachable) _A	-	-	<0.02	-	0.05	<0.02	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Chrysene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable) _A	-	-	<0.02	-	0.09	<0.02	-	µg/l	0.02	A-T-019w
Fluorene (leachable) _A	-	-	<0.02	-	0.03	<0.02	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable) _A	-	-	<0.02	-	<0.02	<0.02	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) _A	-	-	<0.02	-	0.10	0.04	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable) _A	-	-	0.06	-	0.26	0.04	-	µg/l	0.02	A-T-019w
Pyrene (leachable) _A	-	-	<0.02	-	0.06	<0.02	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable) _A	-	-	0.06	-	0.62	0.08	-	µg/l	0.02	A-T-019w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
TPH CWG (leachable)										
Ali >C5-C6 (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable) _A	-	-	<10	-	<10	23	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable) _A	-	-	<20	-	<20	<20	-	µg/l	20	A-T-055w
Total Aliphatics (leachable) _A	-	-	<20	-	<20	23	-	µg/l	10	A-T-055w
Aro >C5-C7 (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable) _A	-	-	<10	-	<10	13	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable) _A	-	-	<10	-	<10	<10	-	µg/l	10	A-T-055w
Total Aromatics (leachable) _A	-	-	<20	-	<20	<20	-	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C35) (leachable) _A	-	-	<20	-	<20	36	-	µg/l	20	A-T-055w
BTEX - Benzene (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
MTBE (leachable) _A	-	-	<1	-	<1	<1	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable) _A	-	-	<20	-	<20	<20	-	µg/l	20	A-T-055w

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Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	Units	Limit of Detection	Method ref
Client Sample No	7	17	3	13	4	2	6			
Client Sample ID	WS102	WS102	WS103	WS103	WS104	WS105	WS105			
Depth to Top	1.20	4.20	0.5	3.5	0.5	0.2	1.3			
Depth To Bottom										
Date Sampled	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	3A	5AE	3A	6A	6AE	3A			
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	<1	<1	12	<1	<1	8	8	mg/kg	1	A-T-055s
Total Aliphatics _A	<1	<1	13	<1	<1	8	8	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	2	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	3	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	<1	<1	11	<1	<1	9	5	mg/kg	1	A-T-055s
Total Aromatics _A	<1	<1	16	<1	<1	9	5	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	<1	<1	29	<1	<1	17	13	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
% Stones >10mm _A	<0.1	<0.1	1.0	-	<0.1	<0.1	<0.1			
pH _D ^{M#}	9.17	9.60	9.33	-	8.38	9.37	9.89	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.08	<0.01	0.05	-	0.02	0.29	0.03	g/l	0.01	A-T-026s
Total Organic Carbon _D ^{M#}	0.16	6.60	0.15	-	0.69	0.24	1.04	% w/w	0.03	A-T-032s
Antimony _D	<5	<5	<5	-	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	4	<1	2	-	<1	4	3	mg/kg	1	A-T-024s
Barium _D	123	35	98	-	163	134	52	mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	<0.5	<0.5	<0.5	-	<0.5	0.6	<0.5	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	18	6	16	-	35	26	15	mg/kg	1	A-T-024s
Chromium _D ^{M#}	31	6	29	-	42	48	10	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	31	6	29	-	42	48	10	mg/kg	1	Calc
Lead _D ^{M#}	9	3	9	-	17	15	7	mg/kg	1	A-T-024s
Mercury _D	0.51	4.76	0.90	-	<0.17	0.63	4.58	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	32	10	30	-	35	51	17	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	35	7	30	-	43	51	9	mg/kg	1	A-T-024s
Zinc _D ^{M#}	57	11	47	-	98	78	20	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1) _A	-	*	-	-	-	-	*			A-T-001
pH (leachable) _A [#]	-	8.81	-	-	-	-	8.88	pH	0.01	A-T-031w
Electrical Conductivity (leachable) _A	-	50	-	-	-	-	55	µs/cm	10	A-T-037w
Hardness Total (leachable) _A	-	35	-	-	-	-	36	mg/l Ca CO ₃	2	A-T-049w
Ammoniacal nitrogen as N (leachable) _A	-	0.02	-	-	-	-	0.03	mg/l	0.02	A-T-033w
Sulphate (leachable) _A [#]	-	<1.00	-	-	-	-	17.65	mg/l	1	A-T-026w
DOC (leachable) _A [#]	-	<0.2	-	-	-	-	<0.2	mg/l	0.2	A-T-032w
Antimony (leachable) _A [#]	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Arsenic (leachable) _A [#]	-	<1	-	-	-	-	1	µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	<10	-	-	-	-	<10	µg/l	10	A-T-025w
Barium (leachable) _A [#]	-	14	-	-	-	-	20	µg/l	1	A-T-025w
Cadmium (leachable) _A [#]	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	2	-	-	-	-	4	µg/l	1	A-T-025w
Chromium (leachable) _A [#]	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
Chromium (hexavalent) (leachable) _A	-	<0.05	-	-	-	-	<0.05			
Chromium (trivalent) (10:1 leachable)	-	<0.05	-	-	-	-	<0.05	mg/l	0.05	Calc
Lead (leachable) _A [#]	-	3	-	-	-	-	3	µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	<0.1	-	-	-	-	<0.1	µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Vanadium (leachable) _A [#]	-	1	-	-	-	-	5	µg/l	1	A-T-025w
Zinc (leachable) _A [#]	-	2	-	-	-	-	5	µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	-	-	NAD	NAD	-	NAD			A-T-045
Asbestos Matrix (visual) _D	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	-	-	N/A	N/A	-	N/A			A-T-045

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

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Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	<0.04	<0.04	-	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	<0.04	-	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	-	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	-	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	<0.08	-	<0.08	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	-	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	<0.07	-	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	<0.08	<0.08	<0.08	-	<0.08	<0.08	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
PAH 16MS (leachable)										
Acenaphthene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Acenaphthylene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Anthracene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Chrysene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Fluoranthene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Fluorene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Naphthalene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Phenanthrene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Pyrene (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable) _A	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
TPH CWG (leachable)										
Ali >C5-C6 (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
Ali >C6-C8 (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
Ali >C8-C10 (leachable) _A	-	<10	-	-	-	-	14	µg/l	10	A-T-055w
Ali >C10-C12 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Ali >C12-C16 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Ali >C16-C21 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Ali >C21-C35 (leachable) _A	-	<20	-	-	-	-	<20	µg/l	20	A-T-055w
Total Aliphatics (leachable) _A	-	<20	-	-	-	-	<20	µg/l	10	A-T-055w
Aro >C5-C7 (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
Aro >C7-C8 (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
Aro >C8-C10 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Aro >C10-C12 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Aro >C12-C16 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Aro >C16-C21 (leachable) _A	-	<10	-	-	-	-	<10	µg/l	10	A-T-055w
Total Aromatics (leachable) _A	-	<20	-	-	-	-	<20	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C35) (leachable) _A	-	<20	-	-	-	-	<20	µg/l	20	A-T-055w
BTEX - Benzene (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
BTEX - Toluene (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
BTEX - o Xylene (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
MTBE (leachable) _A	-	<1	-	-	-	-	<1	µg/l	1	A-T-022w
Aro >C21-C35 (leachable) _A	-	<20	-	-	-	-	<20	µg/l	20	A-T-055w

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Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	Units	Limit of Detection	Method ref
Client Sample No	12	1	7	1	6	11	1			
Client Sample ID	WS105	WS106	WS106	WS108	WS108	WS108	WS109			
Depth to Top	2.1	0.2	2	0.2	1	2.2	0.2			
Depth To Bottom										
Date Sampled	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid			
Sample Matrix Code	3A	7	3A	7	6A	3A	7			
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	1	<1	<1	-	<1	1	<1	mg/kg	1	A-T-055s
Total Aliphatics _A	1	<1	<1	-	<1	1	<1	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
Total Aromatics _A	<1	<1	<1	-	<1	<1	<1	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	1	<1	<1	-	<1	1	<1	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
% Stones >10mm _A	<0.1	53.4	-	<0.1						
pH _D ^{M#}	9.65	9.63	-	9.30				pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.13	0.02	-	0.03				g/l	0.01	A-T-026s
Total Organic Carbon _D ^{M#}	0.23	0.13	-	0.15				% w/w	0.03	A-T-032s
Antimony _D	<5	<5	-	<5				mg/kg	5	A-T-024s
Arsenic _D ^{M#}	4	1	-	22				mg/kg	1	A-T-024s
Barium _D	147	22	-	84				mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	<1.0	-	<1.0				mg/kg	1	A-T-027s
Cadmium _D ^{M#}	0.6	<0.5	-	<0.5				mg/kg	0.5	A-T-024s
Copper _D ^{M#}	27	8	-	43				mg/kg	1	A-T-024s
Chromium _D ^{M#}	57	4	-	40				mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	-	<1				mg/kg	1	A-T-040s
Chromium (trivalent)	57	4	-	40				mg/kg	1	Calc
Lead _D ^{M#}	14	3	-	20				mg/kg	1	A-T-024s
Mercury _D	1.00	2.41	-	0.56				mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	52	13	-	49				mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-024s
Vanadium _D ^{M#}	64	4	-	44				mg/kg	1	A-T-024s
Zinc _D ^{M#}	79	8	-	64				mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-2 (10:1) _A	-	*	-	-						A-T-001
pH (leachable) _A [#]	-	8.61	-	-				pH	0.01	A-T-031w
Electrical Conductivity (leachable) _A	-	53	-	-				µs/cm	10	A-T-037w
Hardness Total (leachable) _A	-	26	-	-				mg/l Ca CO ₃	2	A-T-049w
Ammoniacal nitrogen as N (leachable) _A	-	0.02	-	-				mg/l	0.02	A-T-033w
Sulphate (leachable) _A [#]	-	34.11	-	-				mg/l	1	A-T-026w
DOC (leachable) _A [#]	-	<0.2	-	-				mg/l	0.2	A-T-032w
Antimony (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Arsenic (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Boron (leachable) _A [#]	-	<10	-	-				µg/l	10	A-T-025w
Barium (leachable) _A [#]	-	5	-	-				µg/l	1	A-T-025w
Cadmium (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Copper (leachable) _A [#]	-	1	-	-				µg/l	1	A-T-025w
Chromium (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
Chromium (hexavalent) (leachable) _A	-	<0.05	-	-						
Chromium (trivalent) (10:1 leachable)	-	<0.05	-	-				mg/l	0.05	Calc
Lead (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Mercury (leachable) _A [#]	-	<0.1	-	-				µg/l	0.1	A-T-025w
Nickel (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Selenium (leachable) _A [#]	-	<1	-	-				µg/l	1	A-T-025w
Vanadium (leachable) _A [#]	-	2	-	-				µg/l	1	A-T-025w
Zinc (leachable) _A [#]	-	2	-	-				µg/l	1	A-T-025w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	-	NAD	NAD	-				A-T-045		
Asbestos Matrix (visual) _D	-	-	-	-				A-T-045		
Asbestos Matrix (microscope) _D	-	-	-	-				A-T-045		
Asbestos ACM - Suitable for Water Absorption Test? _D	-	N/A	N/A	-				A-T-045		

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	-	<0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	<0.04	-	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	-	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	<0.05	-	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	-	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	-	<0.07				mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	-	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	-	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	-	<0.08				mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	-	<0.03				mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	-	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	-	<0.03				mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	-	<0.07				mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	<0.08	<0.08	-	<0.08				mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
PAH 16MS (leachable)										
Acenaphthene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Acenaphthylene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Anthracene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Chrysene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Fluoranthene (leachable) _A	-	0.04	-	-				µg/l	0.02	A-T-019w
Fluorene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Naphthalene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Phenanthrene (leachable) _A	-	<0.02	-	-				µg/l	0.02	A-T-019w
Pyrene (leachable) _A	-	0.04	-	-				µg/l	0.02	A-T-019w
Total PAH 16MS (leachable) _A	-	0.08	-	-				µg/l	0.02	A-T-019w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
TPH CWG (leachable)										
Ali >C5-C6 (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
Ali >C6-C8 (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
Ali >C8-C10 (leachable) _A	-	13	-	-				µg/l	10	A-T-055w
Ali >C10-C12 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Ali >C12-C16 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Ali >C16-C21 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Ali >C21-C35 (leachable) _A	-	<20	-	-				µg/l	20	A-T-055w
Total Aliphatics (leachable) _A	-	<20	-	-				µg/l	10	A-T-055w
Aro >C5-C7 (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
Aro >C7-C8 (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
Aro >C8-C10 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Aro >C10-C12 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Aro >C12-C16 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Aro >C16-C21 (leachable) _A	-	<10	-	-				µg/l	10	A-T-055w
Total Aromatics (leachable) _A	-	<20	-	-				µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C35) (leachable) _A	-	<20	-	-				µg/l	20	A-T-055w
BTEX - Benzene (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
BTEX - Toluene (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
BTEX - o Xylene (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
MTBE (leachable) _A	-	<1	-	-				µg/l	1	A-T-022w
Aro >C21-C35 (leachable) _A	-	<20	-	-				µg/l	20	A-T-055w

Envirolab Job Number: 21/11537

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	21/11537/55	21/11537/56	21/11537/57	21/11537/58				Units	Limit of Detection	Method ref
Client Sample No	8	2	3	5						
Client Sample ID	WS109	WS110	WS110	WS110						
Depth to Top	2	0.2	0.4	1						
Depth To Bottom										
Date Sampled	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	3A	4A	6A	6A						
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	-	<1				mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	<1	2	-	<1				mg/kg	1	A-T-055s
Total Aliphatics _A	<1	2	-	<1				mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	-	<1				mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	-	<1				mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	-	<1				mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	<1	<1	-	<1				mg/kg	1	A-T-055s
Total Aromatics _A	<1	<1	-	<1				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	<1	3	-	<1				mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	-	<0.01				mg/kg	0.01	A-T-022s

REPORT NOTES

General

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

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

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

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF
Project: Glan Clwyd Hospital
Clients Project No: 2230534
Project No: 21/11537
Date Received: 25/10/2021 (am)
Cool Box Temperatures (°C): 10.4 - 12.9

Lab Sample ID	21/11537/2	21/11537/4	21/11537/5	21/11537/8	21/11537/21	21/11537/23	21/11537/26	21/11537/28	21/11537/31
Client Sample No	3	7	1	7	3	7	17	3	13
Client Sample ID/Depth	TP101 0.20m	TP101 0.70m	TP102 0.05m	TP102 0.85m	WS102 0.45m	WS102 1.20m	WS102 4.20m	WS103 0.5m	WS103 3.5m
Date Sampled	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21
Deviation Code									
F	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key

F Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	21/11537/2	21/11537/4	21/11537/5	21/11537/8	21/11537/21	21/11537/23	21/11537/26	21/11537/28	21/11537/31
Client Sample No	3	7	1	7	3	7	17	3	13
Client Sample ID/Depth	TP101 0.20m	TP101 0.70m	TP102 0.05m	TP102 0.85m	WS102 0.45m	WS102 1.20m	WS102 4.20m	WS103 0.5m	WS103 3.5m
Date Sampled	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21
PAH-16MS	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG			✓						
PAH (total 17)								✓	

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples $5 \pm 3^\circ\text{C}$), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18
Client Sample No	1	3	7	1	3	7	2	5	8	14	2	7
Client Sample ID/Depth	TP101 0.05m	TP101 0.20m	TP101 0.70m	TP102 0.05m	TP102 0.20m	TP102 0.85m	TP104 0.10m	TP104 0.30m	TP104 0.70m	TP104 1.60m	WS101 0.20m	WS101 2.00m
Date Sampled	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	15/10/21	15/10/21	15/10/21	15/10/21	13/10/21	13/10/21
A-T-004s							28/10/2021	28/10/2021				
A-T-007s							28/10/2021	28/10/2021				
A-T-019s		28/10/2021	28/10/2021	04/11/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-019w		29/10/2021		05/11/2021			29/10/2021				29/10/2021	
A-T-022s		28/10/2021	28/10/2021	04/11/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-022w		29/10/2021		05/11/2021			29/10/2021				29/10/2021	
A-T-024s		01/11/2021	01/11/2021	05/11/2021		01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021
A-T-025w		29/10/2021		09/11/2021			08/11/2021	08/11/2021			29/10/2021	
A-T-026s		29/10/2021	29/10/2021	04/11/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-026w		29/10/2021		05/11/2021			08/11/2021	08/11/2021			29/10/2021	
A-T-027s		02/11/2021	02/11/2021	05/11/2021		02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021
A-T-030s							29/10/2021	29/10/2021				
A-T-031s		29/10/2021	29/10/2021	08/11/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-031w		29/10/2021		05/11/2021			08/11/2021	08/11/2021			29/10/2021	
A-T-032s		29/10/2021	29/10/2021	04/11/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-032w		08/11/2021		09/11/2021			08/11/2021	08/11/2021			08/11/2021	
A-T-033w		29/10/2021		05/11/2021			29/10/2021				29/10/2021	
A-T-037w		29/10/2021		05/11/2021			08/11/2021	08/11/2021			29/10/2021	
A-T-040s		29/10/2021	29/10/2021	04/11/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-040w		29/10/2021		05/11/2021			29/10/2021				29/10/2021	
A-T-044		29/10/2021	29/10/2021	05/11/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-045	26/10/2021	26/10/2021		02/11/2021	26/10/2021		26/10/2021	26/10/2021			26/10/2021	
A-T-049w		01/11/2021		08/11/2021			01/11/2021				01/11/2021	
A-T-050w							08/11/2021	08/11/2021				
A-T-055s		28/10/2021	28/10/2021	04/11/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-055w		29/10/2021		05/11/2021			29/10/2021				29/10/2021	
A-T-ANCs							29/10/2021	29/10/2021				
Calc		01/11/2021	01/11/2021	08/11/2021		01/11/2021	08/11/2021	08/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021
Calc-no stones							08/11/2021	08/11/2021				
Probe (w)							08/11/2021	08/11/2021				

Lab Sample ID	21/11537/21	21/11537/22	21/11537/23	21/11537/26	21/11537/28	21/11537/31	21/11537/34	21/11537/37	21/11537/39	21/11537/41	21/11537/42	21/11537/45
Client Sample No	3	5	7	17	3	13	4	2	6	12	1	7
Client Sample ID/Depth	WS102 0.45m	WS102 0.70m	WS102 1.20m	WS102 4.20m	WS103 0.5m	WS103 3.5m	WS104 0.5m	WS105 0.2m	WS105 1.3m	WS105 2.1m	WS106 0.2m	WS106 2m
Date Sampled	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	12/10/21	13/10/21	13/10/21	13/10/21	13/10/21	14/10/21	14/10/21
A-T-004s					28/10/2021			28/10/2021				
A-T-007s					28/10/2021			28/10/2021				
A-T-019s	28/10/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-019w					29/10/2021		29/10/2021	29/10/2021			29/10/2021	
A-T-022s	28/10/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-022w					29/10/2021		29/10/2021	29/10/2021			29/10/2021	
A-T-024s	01/11/2021		01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021
A-T-025w					08/11/2021		29/10/2021	08/11/2021			29/10/2021	
A-T-026s	29/10/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-026w					08/11/2021		29/10/2021	08/11/2021			29/10/2021	
A-T-027s	02/11/2021		02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021
A-T-030s					29/10/2021			29/10/2021				
A-T-031s	29/10/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-031w					08/11/2021		29/10/2021	08/11/2021			29/10/2021	
A-T-032s	29/10/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-032w					08/11/2021		08/11/2021	08/11/2021			08/11/2021	
A-T-033w					29/10/2021		29/10/2021	29/10/2021			29/10/2021	
A-T-037w					08/11/2021		29/10/2021	08/11/2021			29/10/2021	
A-T-040s	29/10/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-040w					29/10/2021		29/10/2021	29/10/2021			29/10/2021	
A-T-044	29/10/2021		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021
A-T-045	26/10/2021	26/10/2021			26/10/2021		26/10/2021	26/10/2021		26/10/2021		
A-T-049w					01/11/2021		01/11/2021	01/11/2021			01/11/2021	
A-T-050w					08/11/2021			08/11/2021				
A-T-055s	28/10/2021		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021
A-T-055w					29/10/2021		29/10/2021	29/10/2021			29/10/2021	
A-T-ANCs					29/10/2021			29/10/2021				
Calc	01/11/2021		01/11/2021	01/11/2021	08/11/2021	01/11/2021	01/11/2021	08/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021
Calc-no stones					08/11/2021			08/11/2021				
Probe (w)					08/11/2021			08/11/2021				

Lab Sample ID	21/11537/47	21/11537/49	21/11537/51	21/11537/52	21/11537/55	21/11537/56	21/11537/57	21/11537/58
Client Sample No	1	6	11	1	8	2	3	5
Client Sample ID/Depth	WS108 0.2m	WS108 1m	WS108 2.2m	WS109 0.2m	WS109 2m	WS110 0.2m	WS110 0.4m	WS110 1m
Date Sampled	14/10/21	14/10/21	14/10/21	14/10/21	14/10/21	14/10/21	14/10/21	14/10/21
A-T-004s						28/10/2021		
A-T-007s						28/10/2021		
A-T-019s		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021		28/10/2021
A-T-019w				29/10/2021		29/10/2021		
A-T-022s		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021		28/10/2021
A-T-022w				29/10/2021		29/10/2021		
A-T-024s		01/11/2021	01/11/2021	01/11/2021	01/11/2021	01/11/2021		01/11/2021
A-T-025w				29/10/2021		08/11/2021		
A-T-026s		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021		29/10/2021
A-T-026w				29/10/2021		08/11/2021		
A-T-027s		02/11/2021	02/11/2021	02/11/2021	02/11/2021	02/11/2021		02/11/2021
A-T-030s						29/10/2021		
A-T-031s		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021		29/10/2021
A-T-031w				29/10/2021		08/11/2021		
A-T-032s		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021		29/10/2021
A-T-032w				08/11/2021		08/11/2021		
A-T-033w				29/10/2021		29/10/2021		
A-T-037w				29/10/2021		08/11/2021		
A-T-040s		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021		29/10/2021
A-T-040w				29/10/2021		29/10/2021		
A-T-044		29/10/2021	29/10/2021	29/10/2021	29/10/2021	29/10/2021		01/11/2021
A-T-045	26/10/2021	26/10/2021		26/10/2021		26/10/2021	26/10/2021	
A-T-049w				01/11/2021		01/11/2021		
A-T-050w						08/11/2021		
A-T-055s		28/10/2021	28/10/2021	28/10/2021	28/10/2021	28/10/2021		28/10/2021
A-T-055w				29/10/2021		29/10/2021		
A-T-ANCs						29/10/2021		
Calc		01/11/2021	01/11/2021	01/11/2021	01/11/2021	08/11/2021		01/11/2021
Calc-no stones						08/11/2021		
Probe (w)						08/11/2021		

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Final Test Report

Envirolab Job Number: 21/11537
Issue Number: 1

Date: 8-Nov-21

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant/Michelle Hirst-Watson
Project Name: Glan Clwyd Hospital
Project Ref: 2230534
Order No: P7529474

Date Samples Received: 15-Oct-21
Date Instructions Received: 25-Oct-21
Date Analysis Completed: 8-Nov-21

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

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

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s). Clean-up - e.g. by florisil, silica gel. GC - Single coil gas chromatography, Aliphatics only

Approved by:



Richard Wong
Client Manager

Sample Details							Landfill Waste Acceptance Criteria Limits					
Lab Sample ID	Method	ISO17025	MCERTS	21/11537/9			Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill			
Client Sample Number				2								
Client Sample ID				TP104								
Depth to Top				0.1								
Depth to Bottom												
Date Sampled				15/10/2021								
Sample Type				Soil - ES								
Sample Matrix Code				6AE								
Solid Waste Analysis												
pH (pH Units) _D	A-T-031	N	N	8.81			-	>6	-			
ANC to pH 4 (mol/kg) _D	A-T-ANC	N	N	0.14			-	to be evaluated	to be evaluated			
ANC to pH 6 (mol/kg) _D	A-T-ANC	N	N	0.13			-	to be evaluated	to be evaluated			
Loss on Ignition (%) _D	A-T-030	N	N	3.2			-	-	10			
Total Organic Carbon (%) _D	A-T-032	N	N	1.37			3	5	6			
PAH Sum of 17 (mg/kg) _A	A-T-019	N	N	<0.08			100	-	-			
Mineral Oil (mg/kg) _A EH, CU, 1D, AL	A-T-007	N	N	113			500	-	-			
Sum of 7 PCBs (mg/kg) _A	A-T-004	N	N	<0.007			1	-	-			
Sum of BTEX (mg/kg) _A	A-T-022	N	N	<0.01			6	-	-			
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)				
				mg/l		mg/kg						
Arsenic	A-T-025	N	N	0.011	0.007	0.023	0.080	0.5	2	25		
Barium	A-T-025	N	N	0.230	0.048	0.489	0.690	20	100	300		
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.04	1	5		
Chromium	A-T-025	N	N	0.002	<0.001	0.004	<0.01	0.5	10	70		
Copper	A-T-025	N	N	0.031	0.008	0.066	0.110	2	50	100		
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	<0.005	0.01	0.2	2		
Molybdenum	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	10	30		
Nickel	A-T-025	N	N	0.002	<0.001	0.004	<0.01	0.4	10	40		
Lead	A-T-025	N	N	0.060	0.014	0.127	0.190	0.5	10	50		
Antimony	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.06	0.7	5		
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7		
Zinc	A-T-025	N	N	0.075	0.020	0.159	0.270	4	50	200		
Chloride	A-T-026	N	N	7	<1.00	15	<10	800	15000	25000		
Fluoride	A-T-026	N	N	0.5	<0.10	1.1	<1	10	150	500		
Sulphate as SO ₄	A-T-026	N	N	8	<1.00	16	<10	1000	20000	50000		
Total Dissolved Solids	A-T-035	N	N	66	35	140	390	4000	60000	100000		
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-		
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	<200	500	800	1000		
Leach Test Information												
pH (pH Units)	A-T-031	N	N	7.4	6.9							
Conductivity (µS/cm)	A-T-037	N	N	132	70							
Mass Sample (kg)				0.197								
Dry Matter (%)	A-T-044	N	N	88.9								
Stage 1												
Volume Leachant, L ₂ (l)	A-T-046			0.350								
Filtered Eluate Volume, VE ₁ (l)	A-T-046			0.200								
Stage 2												
Volume Leachant, L ₈ (l)	A-T-046			1.400								
Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation												

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

Sample Details							Landfill Waste Acceptance Criteria Limits			
Lab Sample ID	Method	ISO17025	MCERTS	21/11537/10						
Client Sample Number				5			Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill	
Client Sample ID				TP104						
Depth to Top				0.3						
Depth to Bottom										
Date Sampled				15/10/2021						
Sample Type				Soil - ES						
Sample Matrix Code				6A						
Solid Waste Analysis										
pH (pH Units) _D	A-T-031	N	N	6.69			-	>6	-	
ANC to pH 4 (mol/kg) _D	A-T-ANC	N	N	0.11			-	to be evaluated	to be evaluated	
ANC to pH 6 (mol/kg) _D	A-T-ANC	N	N	<0.01			-	to be evaluated	to be evaluated	
Loss on Ignition (%) _D	A-T-030	N	N	4			-	-	10	
Total Organic Carbon (%) _D	A-T-032	N	N	1.36			3	5	6	
PAH Sum of 17 (mg/kg) _A	A-T-019	N	N	<0.08			100	-	-	
Mineral Oil (mg/kg) _A EH, CU, 1D, AL	A-T-007	N	N	<10			500	-	-	
Sum of 7 PCBs (mg/kg) _A	A-T-004	N	N	<0.007			1	-	-	
Sum of BTEX (mg/kg) _A	A-T-022	N	N	<0.01			6	-	-	
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg				
Arsenic	A-T-025	N	N	0.005	0.003	0.011	0.030	0.5	2	25
Barium	A-T-025	N	N	0.331	0.127	0.717	1.520	20	100	300
Cadmium	A-T-025	N	N	0.001	<0.001	0.002	<0.01	0.04	1	5
Chromium	A-T-025	N	N	0.003	<0.001	0.006	<0.01	0.5	10	70
Copper	A-T-025	N	N	0.018	0.007	0.039	0.080	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	<0.005	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.001	<0.001	0.002	<0.01	0.5	10	30
Nickel	A-T-025	N	N	0.004	0.001	0.009	0.010	0.4	10	40
Lead	A-T-025	N	N	0.122	0.060	0.264	0.680	0.5	10	50
Antimony	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
Zinc	A-T-025	N	N	0.131	0.049	0.284	0.590	4	50	200
Chloride	A-T-026	N	N	8	2	18	30	800	15000	25000
Fluoride	A-T-026	N	N	0.9	0.5	2.0	6.0	10	150	500
Sulphate as SO ₄	A-T-026	N	N	<1.00	7	<2	<10	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	88	45	191	506	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	<200	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.1	7.7					
Conductivity (µS/cm)	A-T-037	N	N	175	90					
Mass Sample (kg)				0.204						
Dry Matter (%)	A-T-044	N	N	85.8						
Stage 1										
Volume Leachant, L ₂ (l)	A-T-046			0.350						
Filtered Eluate Volume, VE ₁ (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L ₈ (l)	A-T-046			1.400						
Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation										

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Sample Details							Landfill Waste Acceptance Criteria Limits			
Lab Sample ID	Method	ISO17025	MCERTS	21/11537/28						
Client Sample Number				3			Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill	
Client Sample ID				WS103						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				12/10/2021						
Sample Type				Soil - ES						
Sample Matrix Code				5AE						
Solid Waste Analysis										
pH (pH Units) _D	A-T-031	N	N	8.80			-	>6	-	
ANC to pH 4 (mol/kg) _D	A-T-ANC	N	N	0.17			-	to be evaluated	to be evaluated	
ANC to pH 6 (mol/kg) _D	A-T-ANC	N	N	0.14			-	to be evaluated	to be evaluated	
Loss on Ignition (%) _D	A-T-030	N	N	2.5			-	-	10	
Total Organic Carbon (%) _D	A-T-032	N	N	0.41			3	5	6	
PAH Sum of 17 (mg/kg) _A	A-T-019	N	N	0.11			100	-	-	
Mineral Oil (mg/kg) _A EH, CU, 1D, AL	A-T-007	N	N	17			500	-	-	
Sum of 7 PCBs (mg/kg) _A	A-T-004	N	N	<0.007			1	-	-	
Sum of BTEX (mg/kg) _A	A-T-022	N	N	<0.01			6	-	-	
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg				
Arsenic	A-T-025	N	N	0.003	0.005	0.006	0.050	0.5	2	25
Barium	A-T-025	N	N	0.069	0.054	0.148	0.570	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	10	70
Copper	A-T-025	N	N	0.005	0.007	0.011	0.070	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	<0.005	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.007	0.003	0.015	0.040	0.5	10	30
Nickel	A-T-025	N	N	0.002	0.002	0.004	0.020	0.4	10	40
Lead	A-T-025	N	N	0.005	0.011	0.011	0.100	0.5	10	50
Antimony	A-T-025	N	N	0.003	0.002	0.006	0.020	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
Zinc	A-T-025	N	N	0.012	0.018	0.026	0.180	4	50	200
Chloride	A-T-026	N	N	8	2	16	29	800	15000	25000
Fluoride	A-T-026	N	N	1.1	0.7	2.4	7.0	10	150	500
Sulphate as SO ₄	A-T-026	N	N	86	16	185	240	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	171	60	367	736	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	<200	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.8	7.7					
Conductivity (µS/cm)	A-T-037	N	N	343	120					
Mass Sample (kg)				0.201						
Dry Matter (%)	A-T-044	N	N	87.1						
Stage 1										
Volume Leachant, L ₂ (l)	A-T-046			0.350						
Filtered Eluate Volume, VE ₁ (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L ₈ (l)	A-T-046			1.400						
Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation										

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Sample Details							Landfill Waste Acceptance Criteria Limits			
Lab Sample ID	Method	ISO17025	MCERTS	21/11537/37						
Client Sample Number				2			Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill	
Client Sample ID				WS105						
Depth to Top				0.2						
Depth to Bottom										
Date Sampled				13/10/2021						
Sample Type				Soil - ES						
Sample Matrix Code				6AE						
Solid Waste Analysis										
pH (pH Units) _D	A-T-031	N	N	3.64			-	>6	-	
ANC to pH 4 (mol/kg) _D	A-T-ANC	N	N	<0.01			-	to be evaluated	to be evaluated	
ANC to pH 6 (mol/kg) _D	A-T-ANC	N	N	<0.01			-	to be evaluated	to be evaluated	
Loss on Ignition (%) _D	A-T-030	N	N	5.1			-	-	10	
Total Organic Carbon (%) _D	A-T-032	N	N	2.07			3	5	6	
PAH Sum of 17 (mg/kg) _A	A-T-019	N	N	<0.08			100	-	-	
Mineral Oil (mg/kg) _A EH, CU, 1D, AL	A-T-007	N	N	<10			500	-	-	
Sum of 7 PCBs (mg/kg) _A	A-T-004	N	N	<0.007			1	-	-	
Sum of BTEX (mg/kg) _A	A-T-022	N	N	<0.01			6	-	-	
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg				
Arsenic	A-T-025	N	N	0.003	0.002	0.007	0.020	0.5	2	25
Barium	A-T-025	N	N	0.230	0.084	0.508	1.030	20	100	300
Cadmium	A-T-025	N	N	0.003	0.001	0.007	0.010	0.04	1	5
Chromium	A-T-025	N	N	0.002	<0.001	0.004	<0.01	0.5	10	70
Copper	A-T-025	N	N	0.015	0.007	0.033	0.080	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	<0.005	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	10	30
Nickel	A-T-025	N	N	0.004	0.002	0.009	0.020	0.4	10	40
Lead	A-T-025	N	N	0.360	0.141	0.795	1.690	0.5	10	50
Antimony	A-T-025	N	N	0.001	<0.001	0.002	<0.01	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
Zinc	A-T-025	N	N	0.455	0.132	1.005	1.720	4	50	200
Chloride	A-T-026	N	N	12	2	27	32	800	15000	25000
Fluoride	A-T-026	N	N	0.7	0.9	1.6	9.0	10	150	500
Sulphate as SO ₄	A-T-026	N	N	<1.00	1	<2	<10	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	81	46	179	510	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	23.30	<40	<200	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.5	7.8					
Conductivity (µS/cm)	A-T-037	N	N	161	92					
Mass Sample (kg)				0.211						
Dry Matter (%)	A-T-044	N	N	82.8						
Stage 1										
Volume Leachant, L ₂ (l)	A-T-046			0.350						
Filtered Eluate Volume, VE ₁ (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L ₈ (l)	A-T-046			1.400						
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Sample Details						Landfill Waste Acceptance Criteria Limits				
Lab Sample ID	Method	ISO17025	MCERTS	21/11537/56						
Client Sample Number				2		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill		
Client Sample ID				WS110						
Depth to Top				0.2						
Depth to Bottom										
Date Sampled				14/10/2021						
Sample Type				Soil - ES						
Sample Matrix Code				4A						
Solid Waste Analysis										
pH (pH Units) _D	A-T-031	N	N	9.63				>6		
ANC to pH 4 (mol/kg) _D	A-T-ANC	N	N	0.95				to be evaluated	to be evaluated	
ANC to pH 6 (mol/kg) _D	A-T-ANC	N	N	0.12				to be evaluated	to be evaluated	
Loss on Ignition (%) _D	A-T-030	N	N	0.7				-	10	
Total Organic Carbon (%) _D	A-T-032	N	N	0.13			3	5	6	
PAH Sum of 17 (mg/kg) _A	A-T-019	N	N	<0.08			100	-	-	
Mineral Oil (mg/kg) _A EH, CU, 1D, AL	A-T-007	N	N	<10			500	-	-	
Sum of 7 PCBs (mg/kg) _A	A-T-004	N	N	<0.007			1	-	-	
Sum of BTEX (mg/kg) _A	A-T-022	N	N	<0.01			6	-	-	
Eluate Analysis				2:1	8:1	2:1	Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
				mg/l		mg/kg				
Arsenic	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	2	25
Barium	A-T-025	N	N	0.013	0.003	0.027	0.040	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	10	70
Copper	A-T-025	N	N	0.003	0.001	0.006	0.010	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	<0.005	0.01	0.2	2
Molybdenum	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.5	10	30
Nickel	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.4	10	40
Lead	A-T-025	N	N	0.001	<0.001	0.002	<0.01	0.5	10	50
Antimony	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	<0.01	0.1	0.5	7
Zinc	A-T-025	N	N	0.007	0.003	0.014	0.030	4	50	200
Chloride	A-T-026	N	N	<1.00	<1.00	<2	<10	800	15000	25000
Fluoride	A-T-026	N	N	<0.10	<0.10	<0.2	<1	10	150	500
Sulphate as SO ₄	A-T-026	N	N	<1.00	<1.00	<2	<10	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	32	<20	66	<200	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	<200	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	8.0	8.6					
Conductivity (µS/cm)	A-T-037	N	N	63	37					
Mass Sample (kg)				0.186						
Dry Matter (%)	A-T-044	N	N	94.2						
Stage 1										
Volume Leachant, L ₂ (l)	A-T-046			0.350						
Filtered Eluate Volume, VE ₁ (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L ₈ (l)	A-T-046			1.400						
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FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/00818
Issue Number: 1
Date: 09 February, 2022

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Michelle Hirst-Watson
Project Name: Glan Clwyd
Project Ref: 2230534
Order No: P7530626
Date Samples Received: 26/01/22
Date Instructions Received: 31/01/22
Date Analysis Completed: 09/02/22

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 22/00818

Client Project Name: Glan Clwyd

Client Project Ref: 2230534

Lab Sample ID	22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS101	WS103	WS104	WS105	WS109	WS110				
Depth to Top	3.80	1.5	1.40	1.90	1.75	1.70				
Depth To Bottom										
Date Sampled	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22				
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
pH (w) [#]	7.72	7.68	7.46	7.54	8.08	8.24				
Electrical conductivity @ 20degC (w) [#]	990	944	839	883	2371	1730		µs/cm	10	A-T-037w
Hardness Total [#]	539	323	325	415	788	446		mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (w) [#]	0.03	0.50	0.02	0.02	0.04	0.03		mg/l	0.02	A-T-033w
Sulphate (w) [#]	57	271	16	40	787	384		mg/l	1	A-T-026w
DOC (w) [#]	34.4	165	243	33.1	20.2	71.6		mg/l	2	A-T-032w
Antimony (dissolved) _A	2	1	<1	<1	9	5		µg/l	1	A-T-025w
Arsenic (dissolved) _A [#]	1	<1	<1	<1	1	<1		µg/l	1	A-T-025w
Boron (dissolved) _A [#]	81	39	44	58	259	84		µg/l	10	A-T-025w
Barium (dissolved) _A [#]	89	109	107	85	45	55		µg/l	1	A-T-025w
Cadmium (dissolved) _A [#]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		µg/l	0.2	A-T-025w
Copper (dissolved) _A [#]	3	3	10	5	3	3		µg/l	1	A-T-025w
Chromium (dissolved) _A [#]	<1	<1	1	<1	27	<1		µg/l	1	A-T-025w
Chromium (hexavalent) (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/l	0.01	A-T-040w
Chromium (trivalent) (w)	<0.01	<0.01	<0.01	<0.01	0.03	<0.01		mg/l	0.01	Calc
Lead (dissolved) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-025w
Mercury (dissolved) _A [#]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		µg/l	0.1	A-T-025w
Nickel (dissolved) _A [#]	2	10	5	3	1	<1		µg/l	1	A-T-025w
Selenium (dissolved) _A [#]	<1	2	<1	<1	120	2		µg/l	1	A-T-025w
Vanadium (dissolved) _A [#]	<1	1	<1	<1	6	<1		µg/l	1	A-T-025w
Zinc (dissolved) _A [#]	4	7	11	4	19	3		µg/l	1	A-T-025w

Envirolab Job Number: 22/00818

Client Project Name: Glan Clwyd

Client Project Ref: 2230534

Lab Sample ID	22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS101	WS103	WS104	WS105	WS109	WS110				
Depth to Top	3.80	1.5	1.40	1.90	1.75	1.70				
Depth To Bottom										
Date Sampled	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22				
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
PAH 16MS (w)										
Acenaphthene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Acenaphthylene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Anthracene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(a)anthracene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(a)pyrene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Chrysene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Fluoranthene (w) _A [#]	<0.01	<0.01	<0.01	0.02	<0.01	<0.01		µg/l	0.01	A-T-019w
Fluorene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w) _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Naphthalene (w) _A [#]	<0.01	0.02	<0.01	<0.01	0.04	<0.01		µg/l	0.01	A-T-019w
Phenanthrene (w) _A [#]	<0.01	<0.01	0.01	<0.01	<0.01	<0.01		µg/l	0.01	A-T-019w
Pyrene (w) _A [#]	<0.01	0.01	<0.01	0.04	<0.01	<0.01		µg/l	0.01	A-T-019w
Total PAH 16MS (w) _A [#]	<0.01	0.03	0.01	0.06	0.04	<0.01		µg/l	0.01	A-T-019w

Envirolab Job Number: 22/00818

Client Project Name: Glan Clwyd

Client Project Ref: 2230534

Lab Sample ID	22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS101	WS103	WS104	WS105	WS109	WS110				
Depth to Top	3.80	1.5	1.40	1.90	1.75	1.70				
Depth To Bottom										
Date Sampled	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22	25-Jan-22				
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW				
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A				
TPH CWG (w) with Clean Up *C1										
Ali >C5-C6 (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Ali >C6-C8 (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Ali >C8-C10 (w) _A [#]	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C10-C12 (w) _A [#]	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C12-C16 (w) _A [#]	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C16-C21 (w) _A [#]	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Ali >C21-C35 (w) _A [#]	18	<5	23	<5	<5	<5		µg/l	5	A-T-055w
Total Aliphatics (w) _A [#]	18	<5	23	<5	<5	<5		µg/l	5	A-T-055w
Aro >C5-C7 (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Aro >C7-C8 (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
Aro >C8-C10 (w) _A	<5	<5	6	<5	<5	<5		µg/l	5	A-T-055w
Aro >C10-C12 (w) _A [#]	<5	<5	<5	<5	<5	<5		µg/l	5	A-T-055w
Aro >C12-C16 (w) _A [#]	<5	6	13	<5	<5	<5		µg/l	5	A-T-055w
Aro >C16-C21 (w) _A [#]	<5	9	5	<5	<5	<5		µg/l	5	A-T-055w
Aro >C21-C35 (w) _A	<10	<10	<10	<10	<10	<10		µg/l	10	A-T-055w
Total Aromatics (w) _A	<10	15	24	<10	<10	<10		µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C35) (w) _A	18	15	47	<10	<10	<10		µg/l	10	A-T-055w
BTEX - Benzene (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - Toluene (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - m & p Xylene (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
BTEX - o Xylene (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w
MTBE (w) _A [#]	<1	<1	<1	<1	<1	<1		µg/l	1	A-T-022w

REPORT NOTES

General

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

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

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

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

EPH CWG results have humics mathematically subtracted through instrument calculation

TPH results with Cleanup indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF	Project No:	22/00818
Project:	Glan Clwyd	Date Received:	31/01/2022 (am)
Clients Project No:	2230534	Cool Box Temperatures (°C):	8.2, 8.6, 8.5

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples $5 \pm 3^{\circ}\text{C}$), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6
Client Sample No						
Client Sample ID/Depth	WS101 3.80m	WS103 1.5m	WS104 1.40m	WS105 1.90m	WS109 1.75m	WS110 1.70m
Date Sampled	25/01/22	25/01/22	25/01/22	25/01/22	25/01/22	25/01/22
A-T-019w	08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
A-T-022w	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
A-T-025w	08/02/2022	09/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022
A-T-026w	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
A-T-031w	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
A-T-032w	04/02/2022	08/02/2022	08/02/2022	04/02/2022	04/02/2022	04/02/2022
A-T-033w	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
A-T-037w	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
A-T-040w	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022	03/02/2022
A-T-049w	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
A-T-055w	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022	04/02/2022
Calc	08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022	08/02/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

**APPENDIX 2
LEGISLATIVE BACKGROUND AND DERIVATION OF ASSESSMENT
CRITERIA**

LEGISLATIVE BACKGROUND

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in Wales on 1st July 2001 as The Contaminated Land (Wales) Regulations 2001 (WSI 2001/2197, W.157). These regulations were subsequently revoked with the provision of The Contaminated Land (Wales) Regulations 2006 (SI 2006/2989 W.278), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 10th December 2006 and were accompanied by statutory guidance published by the Welsh Assembly Government in December 2006 ('the Guidance') for local authorities on how to implement the regime. The 2006 statutory guidance was replaced by the Contaminated Land Statutory Guidance - 2012 (WG19243), issued by the Welsh Government.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears... to be in such a condition, by reason of substances in, on or under the land, that:

- a) significant harm is being caused or there is a significant possibility of such harm being caused; or
- b) pollution of controlled waters is being or is likely to be caused"².

"Significant harm" is defined in the Guidance on risk-based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land. The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. Under the Guidance, a 'significant contaminant linkage' is one which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land. Should the authority consider that there is an unacceptably high probability, supported by robust science-based evidence that significant harm would occur if no action is taken to stop it, the land should be deemed a Category 1: Human Health.

Land should be placed into Category 2 if the authority concludes, on the basis that there is a strong case for considering that the risks from the land are of sufficient concern, that the land poses a significant possibility of significant harm.

Both Category 1 and Category 2 cases would be capable of being determined as contaminated land under Part 2A on the grounds of significant possibility of significant harm to human health. If the legal test for significant possibility of significant harm is not met, the authority should place the land into Category 3. If the local authority considers that there is no risk or that the level of risk posed is low, the land should be placed into Category 4.

For six common contaminants (benzo(a)pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead), a set of screening values have been developed and endorsed for use by Defra³ (the Category 4 Screening Levels, or C4SLs) that describe a level of risk just below the Category 3/4 boundary set in the Statutory Guidance, i.e. where concentrations are below the C4SL, there is no risk or the level of risk is acceptably low. In March 2015, the Welsh Government issued a statement reaffirming that C4SLs are a "pragmatic but still strongly precautionary approach to risk assessment of potentially contaminated land". They represent a level of a contaminant in soil that would pose a low risk to human health and would not be considered contaminated under Part 2A. The statement notes that C4SLs have been derived using toxicological methods that are robust and are considered appropriate in the UK. The Welsh

² Section 86 of the Water Act 2003 remains only partially implemented in Wales.

³ SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, Defra, revised December 2014

Government's statement confirms that C4SLs can provide a simple test for deciding if land is suitable for use and definitely not contaminated under Part 2A. As such, they can be used as generic screening criteria and could be used as part of the risk assessment process under the planning regime as with Part 2A.

The pollution of controlled waters is defined in Section 78A(9) of the Act as "the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter". According to the Guidance, before determining that pollution of controlled waters is being, or is likely to be, caused, the local authority should be satisfied that a substance is continuing to enter controlled waters or is likely to enter controlled waters. The term "controlled waters" in relation to Wales has the same meaning as in Part 3 of the Water Resources Act 1991, except that "ground waters" does not include waters contained in underground strata but above the saturation zone.

As with human health risk, Categories 1 and 2 comprise land where the local authority considers that a significant possibility of significant pollution of controlled waters exists and Categories 3 and 4 comprises cases where the authority considers that a significant possibility of such pollution does not exist. The local authority should be satisfied that a substance is continuing to enter controlled waters or is likely to enter controlled waters.

Risk Assessment Framework

"Significant harm" or "significant pollution of controlled waters" is defined in the Guidance on risk-based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land.

The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A source - a substance that is capable of causing pollution or harm;
- A receptor - something which could be adversely affected by the contaminant; and
- A pathway - a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

The Land Contamination: Risk Management⁴ (LCRM) provides the technical framework for structured decision making about land contamination. LCRM advocates a phased approach, commencing with Stage 1 Risk Assessment comprising:

- Preliminary Risk Assessment (PRA) – desk study and qualitative assessment to develop of an outline Conceptual Site Model (CSM);
- Generic Quantitative Risk Assessment (GQRA) – an estimation of risk through assessment of contaminant concentrations against generic assessment criteria; and
- Detailed Quantitative Risk Assessment (DQRA) – an estimation of risk through detailed site-specific risk assessment and development of site-specific assessment criteria (SSAC) and site-specific risk assessment.

Each stage of assessment is focussed upon the development and refinement of a conceptual site model, which identifies Source-Pathway-Receptor linkages. The conceptual site model has been

⁴ Land Contamination: Risk Management (LCRM), published by the Environment Agency on 8 October 2020

developed with consideration to guidance including BS EN ISO 21365:2020 Soil quality – Conceptual site models for potentially contaminated sites.

RISK ESTIMATION

An assessment of environmental risks is made for each potential pollutant linkage identified.

Risk estimation has been completed in accordance with the guidance provided in:

- NHBC and Environment Agency 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008.

The following is taken directly from NHBC/EA 2008. The key to the classification is that the designation of risk is based upon the consideration of both:

- the magnitude of the potential consequence (i.e. severity) [takes into account both the potential severity of the hazard and the sensitivity of the receptor]; and
- the magnitude of probability (i.e. likelihood) [takes into account both the presence of the hazard and receptor and the integrity of the pathway].

Table 1: Classification of Consequence (after NHBC/EA 2008)

Category	Definition
Severe	<p>Highly elevated concentrations likely to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs.</p> <p>Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce.</p> <p>Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population.</p> <p>Catastrophic damage to crops, buildings or property.</p>
Medium	<p>Elevated concentrations which could result in “significant harm” to human health as defined by the EPA 1990, Part 2A if exposure occurs.</p> <p>Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce.</p> <p>Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population.</p> <p>Significant damage to crops, buildings or property.</p>
Mild	<p>Exposure to human health unlikely to lead to “significant harm”.</p> <p>Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce.</p> <p>Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.</p> <p>Minor damage to crops, buildings or property.</p>
Minor	<p>No measurable effect on humans.</p>

Category	Definition
	Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.
	Repairable effects of damage to buildings, structures and services.

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Table 2: Classification of Probability (after NHBC/EA 2008)

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

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Table 3: The Classification of Risk (after NHBC/EA 2008)

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high	High	Moderate	Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/ Low	Low	Very low
	Unlikely	Moderate/ Low	Low	Very low	Very low

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk

There is no potential risk if no pollution linkage has been established.

GQRA METHODOLOGIES

In order to assess the significance of contaminant concentrations, Ramboll has derived Generic Assessment Criteria (GAC) for screening purposes. GAC are derived for each critical receptor identified. Receptors are considered in relation to:

- Human health receptors (e.g. site users); and
- The water environment (e.g. groundwater and surface water).

Potential risks to human health are considered primarily using measured concentrations of contaminants in soil. Potential risks to the water environment are considered primarily using groundwater and soil leachate (most commonly in the absence of groundwater) concentrations as indicative of the potentially mobile fraction of any soil impact.

Additional receptors may be relevant, dependent on the site e.g. flora/fauna, agricultural use, water supply pipes, buried concrete etc. These are considered separately on a site specific basis if relevant.

Soil Human Health Risk Assessment

England, Wales, Northern Ireland

The Ramboll GAC for human health risk assessment of soils are based on the generic scenarios outlined in the Defra⁵ SP1010 guidance, Contaminated Land Exposure Assessment (CLEA) methodology and associated guidance documents. The Ramboll GAC have been calculated by use

⁵ SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, Defra, revised December 2014.

of two proprietary risk assessment models (CLEA Version 1.071 and the ASTM RBCA⁶ Tool Kit Version 2.6 for Chemical Releases) which have been altered, where necessary, to reflect the current UK approach to human health risk assessment as set out in LCRM, DEFRA SP1010 guidance, and the CLEA guidance documents (incorporating Science Reports SC050021/SR2 (January 2009), SR3 (January 2009), SR4 (September 2009) and the SGV reports (2009)). The Ramboll GAC include the conservative assumptions of a sandy soil type and 1% soil organic matter.

A methodology for derivation of screening values, the Category 4 Screening Levels, or C4SLs, has been developed and endorsed for use by Defra that describe a low level of risk just below the Category 3/4 boundary set in the Statutory Guidance, i.e. where concentrations are below the C4SL, there is no risk or the level of risk is acceptably low. Initially, C4SLs were developed for six common contaminants (benzo(a)pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead). The Environment Agency states under their LCRM approach that they expect C4SL values to be used in risk assessments for land contamination. C4SLs for additional compounds are being developed by Contaminated Land: Applications in Real Environments (CL:AIRE) and are published on their website when approved for publication⁷. Currently additional C4SLs have been published for vinyl chloride, trichloroethene, tetrachloroethene and 1,2-dichloroethane.

Defra's SP1010 Policy Companion document states that it is anticipated that risk assessors will use the C4SL values, where derived, in line with Part 2A Statutory Guidance. In the absence of a suitable C4SL, risk assessors should identify and select appropriate generic assessment criteria in accordance with established good practice. On this basis, Ramboll has adopted the use of C4SLs where available, however minimal risk (instead of the 'low' level of risk) toxicological assumptions have been applied for in-house Ramboll GAC for other contaminants of concern within our screening assessments.

For contaminants which do not have published C4SLs, the physiochemical and toxicological data has been taken from or derived using the methodology detailed in SR7 (November 2008) and SGV reports (2009), where feasible. Ramboll also attended the Land Quality Management and Chartered Institute of Environmental Health workshop for the collaborative development of 'Suitable 4 Use Levels' (S4ULs) and reference has been made to their publication 'The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015'. Review of additional UK organisation guidance including CL:AIRE and partners GAC, including addendums up until 10 April 2012 has also been made. Finally, where necessary, other published sources of (non-UK) information, such as the RBCA V2.6 database have also been reviewed.

Assessment of Impact to Waters

Assessment of risks to water resources (referred to as "controlled waters" in England & Wales) is completed in general accordance with guidance provided in the Environment Agency's Approach to groundwater protection (2018⁸).

Generic assessment criteria for waters have been selected by Ramboll to assess potential risks to the identified environmental receptors. A hierarchical approach has been taken to the use of assessment criteria based on adoption of published water quality standards at European level and UK specific standards, with those standards being chosen based on the conceptual site model and identified critical receptors. For those determinants included in the analytical suite which do not have a corresponding UK drinking water or environmental screening criteria, reference is made to international guidance in accordance with Environment Agency recommendations.

⁶ American Society for Testing Materials – Risk Based Corrective Action Model, Version 2.6

⁷ C4SL (claire.co.uk)

⁸ The Environment Agency's approach to groundwater protection; February 2018; Version 1.2.

Where such standards are unavailable, standards taken from other organisations, for example the World Health Organisation or OSPAR, have been used.

The list of critical legislation used in this approach is described below.

European Assessment Criteria:

- 2000/60/EC: Water Framework Directive;
- 2006/118/EC: On the Protection of Groundwater Against Pollution and Deterioration; and
- 2013/39/EU: Priority Substances in the Field of Water Policy Directive.

UK Assessment Criteria:

- UKTAG Groundwater Hazardous Substances Standards 2016, annex 2018.

English and Welsh Criteria:

- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015;
- The Groundwater (Water Framework Directive) (England) Direction 2016; and
- The Water Supply (Miscellaneous Amendments) Regulations (England and Wales) 2010.

Other Criteria:

- World Health Organisation (WHO) Drinking Water Regulations 4th edition 2011;
- World Health Organisation (WHO): Petroleum Products in Drinking-water. Background document for development of WHO Guidelines for Drinking-water Quality 2008;
- USEPA National Primary Drinking Water Regulations; and
- OSPAR: Establishment of a List of Predicted No Effect Concentrations (PNECs) for Naturally Occurring Substances in Produced Water. OSPAR Agreement 2014-2015.

Minimum reporting values are also considered for hazardous substances for assessment of risks to groundwater resources in order to comply with the requirements of the guidance to 'prevent' input of hazardous substances to groundwater.

Assessment of Water Impact to Human Health

A methodology for the generation of the GAC for groundwater vapours (GAC_{gwvap}) was published by the Society of Brownfield Risk Assessment (SoBRA) in February 2017⁹, which is based on the CLEA model. Ramboll has adopted SoBRA's approach and modified the model input parameters to reflect site conditions and generate site SSAC for groundwater contaminant sources designed to be protective of site users for a residential and/or commercial/industrial scenario as appropriate.

The SoBRA (GAC_{gwvap}) methodology uses the Environment Agency's CLEA software model. The CLEA software was originally provided for deriving assessment criteria for soils, not groundwater; however, groundwater assessment criteria can be extracted from the calculations within CLEA. CLEA assumes a steady state equilibrium between the sorbed, water and vapour phase concentrations in soil. Consequently, as part of the process of calculating soil phase concentrations, the software also calculates the vapour phase concentration and the pore water dissolved concentration (soil solution concentration) at the soil GAC. Therefore, for given soil assessment criteria derived to be protective of health, a soil solution concentration is also available within the CLEA calculations which would give rise to this vapour concentration at the tolerable risk level. This soil solution concentration is used as an inferred groundwater SSAC.

⁹ SoBRA (2017) Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater. Version 1.0

The proprietary risk assessment model, the ASTM RBCA¹⁰ Tool Kit Version 2.6 for Chemical Releases, has been used for compounds which could not be run in CLEA. The RBCA model has been altered where necessary to reflect the current UK approach to human health risk assessment, as appropriate.

Contaminant Distribution Assessment

Concentrations above the GAC are considered further in relation to vertical and lateral distribution across the site. Where relevant, statistical analysis has been used with consideration to guidance provided in CL:AIRE statistical assessment guidance¹¹.

GROUND GAS RISK ASSESSMENT

The assessment of risks from ground gas is based on current best practice guidance provided in the following documents:

- BS8485:2015+A1:2019. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- NHBC, 2007. Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present (applicable for low rise residential housing with beam and block flooring and a clear ventilated void)

Where relevant, the risk to workers in confined spaces from ground gases (carbon dioxide, carbon monoxide, hydrogen sulphide) has also been assessed using guidance in the following document:

- Health and Safety Executive Workplace Exposure Limits HSE EH40/2005

Derivation of Characteristic Situation

The risk posed by ground gases using the approaches outlined in the documents above are assessed by calculating a Gas Screening Value (GSV). Derivation of the GSV is calculated by multiplying the steady state borehole flow rate (l/hr) with the peak carbon dioxide and methane concentrations for each well. Where required, a 'worst case' condition is also calculated by multiplying the maximum recorded steady state borehole flow rate with the peak carbon dioxide and methane concentrations for different strata across the entire site or zone (as applicable).

The calculated GSV is used to derive a 'Characteristic Situation' which ranges between CS1 (very low hazard potential) to CS6 (very high hazard potential) as defined within BS8485; or to categorise the site as Red / Amber / Green (referred to as traffic lights) as defined within the NHBC guidance for low rise residential buildings.

Requirement for Gas Protection Measures

Depending on the type of proposed development, the British Standards Characteristic Situation or NHBC traffic light system is used to determine the gas protection measures needed for a building. Gas protection measures are generally not required for CS1 or NHBC Green sites unless the Conceptual Site Model indicates a need for further consideration. Although BS8485 and NHBC guidance relates to assessment for new buildings the same assessment methodology can be applied for appraisal of existing site buildings.

BS8485 requires a gas protection score to be identified for a proposed development. This is categorised based on the 'building type' from Type A to D, based on factors including construction and use of the building, together with the control of future structural changes to the

¹⁰ American Society for Testing Materials – Risk Based Corrective Action Model, Version 2.6

¹¹ CL:AIRE (2020) Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration

building and its maintenance, since potential risks posed by ground gases are strongly influenced by these factors.

Gas protection measures are selected to meet the required gas protection score in BS8485, although for some developments in higher Characteristic Situations the gas hazard is considered too high to use the method outlined in BS8485 to define the gas protection measures and further detailed quantitative gas risk assessment is required.

For low rise residential developments, the NHBC traffic light system also uses the GSV to derive the minimum level of protection required and expectations for verification for sites classified as either Amber 1 or Amber 2. NHBC considers that standard residential housing sites with a Red classification would not normally be acceptable without a detailed gas assessment and /or possible remediation to reduce or remove the ground gas source.

APPENDIX 3 SCREENING TABLES

EnviroLab Job Number: 21/11537

Client: Ian Farmer Associates (Warrington)

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID Client Sample No Client Sample ID Depth to Top Date Sampled Sample Type Sample Matrix Code	Units	Limit of Detection	Method	GAC - Commercial / Industrial	Number of exceedances	Maximum concentration	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	21/11537/23	21/11537/26	21/11537/28
							TP101 0.05	TP101 0.20	TP101 0.70	TP102 0.05	TP102 0.20	TP102 0.85	TP104 0.10	TP104 0.30	TP104 0.70	TP104 1.60	WS101 0.20	WS101 2.00	WS102 0.45	WS102 0.70	WS102 1.20	WS102 4.20	WS102 0.5
% Stones >10mm	% w/w	0.1	A-T-044				12.7	<1	<1	<1	<1	1.5	24.6	15.5	5.7	1.9	5.7	<1	2.6	<1	<1	<1	20.5
pH	pH	0.01	A-T-031s	<6,>9	16	10.06	9.4	8.09	7.53		10.06	8.81	6.69	8.71	9.66	8.67	9.21	8.29		8.36	9.25	8.8	8.8
Sulphate (water sol 2:1)	g/l	0.01	A-T-026s				0.03	0.07	<0.05		<0.01	<0.01	0.02	0.04	0.04	0.02	<0.01	0.04		<0.01	0.02	0.02	0.27
Total Organic Carbon	% w/w	0.03	A-T-032s				0.44	2.41	2.74		0.98	1.37	1.36	2.02	0.16	0.96	0.23	1.41		0.23	0.2	0.41	0.41
Antimony	mg/kg	5	A-T-024s				<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5		<5	<5	<5	<5
Arsenic	mg/kg	1	A-T-024s	640	0		3	3	3		4	2	2	4	<1	2	1	3		3	<1	2	2
Barium	mg/kg	1	A-T-024s	22000	0	263	111	165	227		263	82	139	257	98	108	81	139		113	95	98	98
Boron (water soluble)	mg/kg	1	A-T-027s	240000	0	1.2	<1.0	1	1.2		<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
Cadmium	mg/kg	0.5	A-T-024s	410	0	2.5	0.6	1.2	0.9		1.7	0.6	1	2.5	<0.5	1	<0.5	1.1		<0.5	<0.5	<0.5	<0.5
Copper	mg/kg	1	A-T-024s	68000	0	43	17	17	16		16	19	19	16	20	15	18	14		19	20	14	14
Chromium	mg/kg	1	A-T-024s	8600	0	57	27	27	27		27	18	25	29	39	24	33	23		36	35	22	22
Chromium (hexavalent)	mg/kg	1	A-T-040s	49	0		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chromium (trivalent)	mg/kg	1	Calc	8600	0	57	27	27	27		27	18	25	29	39	24	33	23		36	35	22	22
Lead	mg/kg	1	A-T-024s	2300	0	162	34	105	137		141	41	71	162	10	58	11	13		13	9	30	30
Mercury	mg/kg	0.17	A-T-024s	1100	0	4.76	0.66	<0.17	<0.17		<0.17	0.55	0.21	<0.17	0.79	0.23	0.38	<0.17		<0.17	0.45	0.86	0.86
Nickel	mg/kg	1	A-T-024s	980	0	52	23	19	23		22	17	23	35	24	33	18	34		40	34	19	19
Selenium	mg/kg	1	A-T-024s	12000	0		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Vanadium	mg/kg	1	A-T-024s	9000	0	64	31	32	30		32	23	30	36	43	37	31	37		37	38	25	25
Zinc	mg/kg	5	A-T-024s	730000	0	305	75	168	254		250	88	139	305	54	142	48	150		46	51	67	67
Asbestos in Soil (inc. matrix)																							
Asbestos in soil			A-T-045				NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD		NAD	NAD	NAD	NAD
Asbestos ACM - Suitable for Water Absorption Test?			A-T-045				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
PAH-16MS																							
Acenaphthene	mg/kg	0.01	A-T-019s	75000	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Acenaphthylene	mg/kg	0.01	A-T-019s	76000	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Anthracene	mg/kg	0.02	A-T-019s	520000	0	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02
Benzo(a)anthracene	mg/kg	0.04	A-T-019s	700	0	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04
Benzo(b)fluoranthene	mg/kg	0.04	A-T-019s	76	0	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04
Benzo(k)fluoranthene	mg/kg	0.05	A-T-019s	0	0	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Benzo(ghi)perylene	mg/kg	0.05	A-T-019s	3900	0	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg	0.07	A-T-019s	1200	0	<0.07	<0.07	<0.07	<0.07		<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07		<0.07	<0.07	<0.07	<0.07
Chrysene	mg/kg	0.06	A-T-019s	350	0	<0.06	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06	<0.06
Dibenz(ah)anthracene	mg/kg	0.04	A-T-019s	3.5	0	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		<0.04	<0.04	<0.04	<0.04
Fluoranthene	mg/kg	0.08	A-T-019s	23000	0	<0.08	<0.08	<0.08	<0.08		<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		<0.08	<0.08	<0.08	<0.08
Fluorene	mg/kg	0.01	A-T-019s	60000	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Indeno(123-cd)pyrene	mg/kg	0.03	A-T-019s	510	0	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03
Naphthalene	mg/kg	0.03	A-T-019s	110	0	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03
Phenanthrene	mg/kg	0.03	A-T-019s	22000	0	0.05	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	0.05
Pyrene	mg/kg	0.07	A-T-019s	54000	0	<0.07	<0.07	<0.07	<0.07		<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07		<0.07	<0.07	<0.07	<0.07
Total PAH-16MS	mg/kg	0.01	A-T-019s			<0.08	<0.08	<0.08	<0.08		<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		<0.08	<0.08	<0.08	<0.08
TPH CWG																							
Ali >C5-C6	mg/kg	0.01	A-T-022s	2400	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Ali >C6-C8	mg/kg	0.01	A-T-022s	5300	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Ali >C8-C10	mg/kg	1	A-T-055s	1300	0	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Ali >C10-C12	mg/kg	1	A-T-055s	6100	0	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Ali >C12-C16	mg/kg	1	A-T-055s	43000	0	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Ali >C16-C21	mg/kg	1	A-T-055s	1000000	0	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1
Ali >C21-C35	mg/kg	1	A-T-055s	1000000	0	35	<1	4	9		<1	35	5	<1	21	7	3	<1		<1	<1	<1	12
Total Aliphatics	mg/kg	1	A-T-055s			<1	<1	4	9		<1	35	5	<1	21	7	3	<1		<1	<1	<1	13
Aro >C5-C7	mg/kg	0.01	A-T-022s	2200	0	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Aro >C7-C8	mg/kg	0.01	A-T-022s	11																			

EnviroLab Job Number: 21/11537
Client: Ian Farmer Associates (Warrington)
Client Project Name: Glan Clwyd Hospital
Client Project Ref: 2230534

Lab Sample ID	Units	Limit of Detection	Method	GAC - Commercial / Industrial	Number of exceedances	Maximum concentration	21/11537/1	21/11537/2	21/11537/4	21/11537/5	21/11537/6	21/11537/8	21/11537/9	21/11537/10	21/11537/11	21/11537/13	21/11537/15	21/11537/18	21/11537/21	21/11537/22	21/11537/23	21/11537/26	21/11537/28
Client Sample No							1	3	7	1	3	7	2	5	8	14	2	7	3	5	7	17	3
Client Sample ID							TP101	TP101	TP101	TP102	TP102	TP102	TP104	TP104	TP104	TP104	WS101	WS101	WS102	WS102	WS102	WS102	WS103
Depth to Top							0.05	0.20	0.70	0.05	0.20	0.85	0.10	0.30	0.70	1.60	0.20	2.00	0.45	0.70	1.20	4.20	0.5
Depth to Bottom																							
Date Sampled							12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	15-Oct-21	15-Oct-21	15-Oct-21	15-Oct-21	13-Oct-21	13-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21	12-Oct-21
Sample Type							Solid	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES
Sample Matrix Code							7	6A	6AE	6AE	7	6A	6AE	6A	6AE	6A	6A	6A	5A	6A	5A	3A	5AE

Exceedance of GAC highlighted
 Screened against Industrial / Commercial land use

Benzo(a)pyrene used as a surrogate marker for PAHs in grey.

EnviroLab Job Number: 21/11537
Client: Ian Farmer Associates (V)
Client Project Name: Glan Clwyd Hospital
Client Project Ref: 2230534

	21/11537/31	21/11537/34	21/11537/37	21/11537/39	21/11537/41	21/11537/42	21/11537/45	21/11537/47	21/11537/49	21/11537/51	21/11537/52	21/11537/55	21/11537/56	21/11537/57	21/11537/58
Lab Sample ID	13	4	2	6	12	1	7	1	6	11	1	8	2	3	5
Client Sample No	WS103	WS104	WS105	WS105	WS105	WS106	WS106	WS108	WS108	WS108	WS109	WS109	WS110	WS110	WS110
Client Sample ID	3.5	0.5	0.2	1.3	2.1	0.2	2	0.2	1	2.2	0.2	2	0.2	0.4	1
Depth to Top															
Depth to Bottom															
Date Sampled	12-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Soil - ES	Solid	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES
Sample Matrix Code	3A	6A	6AE	3A	3A	7	3A	7	6A	3A	7	3A	4A	6A	6A

Exceedance of GAC highlighted
 Screened against Industrial /
 Commercial land use

Benzo(a)pyrene used as a surrogate marker for PAHs in grey.

Envirolab Job Number: 21/11537
 Client: Ian Farmer Associates (Warrington)
 Client Project Name: Glan Clwyd Hospital
 Client Project Ref: 2230534

Lab Sample ID	Client Sample No	Client Sample ID	Depth to Top	Depth to Bottom	Date Sampled	Sample Type	Sample Matrix Code	Units	Limit of Detection	Method	Minimum Reporting Values (hazardous substances only)	Groundwater resource potential risk based standards to protect potable water supply	Number of exceedances	Maximum Concentration	21/11537/2	21/11537/5	21/11537/9	21/11537/15	21/11537/28	21/11537/34	21/11537/37	21/11537/42	21/11537/52	21/11537/56	
															TP101	TP102	TP104	WS101	WS103	WS104	WS105	WS106	WS109	WS110	
															0.20	0.05	0.10	0.20	0.5	0.5	0.2	0.2	0.2	0.2	
															12-Oct-21	12-Oct-21	15-Oct-21	13-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21	
															Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Solid	Soil - ES
															6A	6AE	6AE	6A	5AE	6A	6AE	6A	7	7	4A
Leachate Prep BS EN 12457-2 (10:1)										A-T-001					*	*	*	*	*	*	*	*	*	*	*
pH (leachable)								pH	0.01	A-T-031w		<6,>9	0	8.88	7.82	7.61	7.66	7.65	7.7	7.66	7.45	8.81	8.88	8.61	
Electrical Conductivity (leachable)								µs/cm	10	A-T-037w					112	386	113	209	254	165	176	50	55	53	
Hardness Total (leachable)								mg/l Ca CO3	2	A-T-049w					289	69	101	108	110	99	118	35	36	26	
Ammoniacal nitrogen as N (leachable)								mg/l	0.02	A-T-033w				0.41	<0.02	0.3	0.08	0.03	0.41	0.23	<0.02	0.02	0.03	0.02	
Sulphate (leachable)								mg/l	1	A-T-026w		250	1	330	31	35	<1.00	33	330	2	<1.00	<1.00	18	34	
DOC (leachable)								mg/l	0.2	A-T-032w					1.1	89.7	1.3	8.9	3.7	4.2	10.4	<0.2	<0.2	<0.2	
Antimony (leachable)								µg/l	1	A-T-025w					<1	2	<1	2	2	<1	<1	<1	<1	<1	
Arsenic (leachable)								µg/l	1	A-T-025w		10	1	33	6	33	4	4	3	3	2	6	<1	1	<1
Boron (leachable)								µg/l	10	A-T-025w		1000	0	39	17	35	<10	39	33	20	<10	<10	<10	<10	
Barium (leachable)								µg/l	1	A-T-025w					316	374	92	64	55	108	103	14	20	5	
Cadmium (leachable)								µg/l	1	A-T-025w		5	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Copper (leachable)								µg/l	1	A-T-025w		5	0	<1	14	41	9	7	4	12	7	2	4	1	
Chromium (leachable)								µg/l	1	A-T-025w		50	0	8	<1	8	<1	<1	<1	<1	1	<1	<1	<1	
Chromium (hexavalent) (leachable)								mg/l	0.05	A-T-040w	0.05		0	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Chromium (trivalent) (10:1 leachable)								mg/l	0.05	Calc				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Lead (leachable)								µg/l	1	A-T-025w	0.2	10	8	256	63	256	20	10	<1	13	91	3	3	<1	
Mercury (leachable)								µg/l	0.1	A-T-025w	0.05	1	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel (leachable)								µg/l	1	A-T-025w	15	0	10	10	2	10	1	2	1	2	2	<1	<1	<1	
Selenium (leachable)								µg/l	1	A-T-025w	7.5	0	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	
Vanadium (leachable)								µg/l	1	A-T-025w					11	68	5	4	3	5	4	1	5	2	
Zinc (leachable)								µg/l	1	A-T-025w	5000	0	322	322	55	322	20	11	2	4	74	2	5	2	
PAH 16MS (leachable)																									
Acenaphthene (leachable)								µg/l	0.02	A-T-019w			0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	
Acenaphthylene (leachable)								µg/l	0.02	A-T-019w			0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Anthracene (leachable)								µg/l	0.02	A-T-019w	0.1	0.05	0	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	
Benzo(a)anthracene (leachable)								µg/l	0.02	A-T-019w	0.01	0.005	0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Benzo(a)pyrene (leachable)								µg/l	0.02	A-T-019w	0.01	0.005	0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Benzo(b)fluoranthene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Benzo(ghi)perylene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Benzo(k)fluoranthene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Chrysene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Dibenz(ah)anthracene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Fluoranthene (leachable)								µg/l	0.02	A-T-019w	0.01	0.075	3	0.09	<0.02	0.04	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.02	0.04	
Fluorene (leachable)								µg/l	0.02	A-T-019w			0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	
Indeno(123-cd)pyrene (leachable)								µg/l	0.02	A-T-019w	0.01		0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Naphthalene (leachable)								µg/l	0.02	A-T-019w		0.075	1	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.04	<0.02	<0.02	<0.02	
Phenanthrene (leachable)								µg/l	0.02	A-T-019w			0	0.07	0.05	0.02	<0.02	<0.02	0.06	0.26	0.04	<0.02	<0.02	<0.02	
Pyrene (leachable)								µg/l	0.02	A-T-019w	0.01		3	0.06	<0.02	0.03	<0.02	<0.02	<0.02	0.06	0.06	<0.02	<0.02	0.04	
Total PAH 16MS (leachable)								µg/l	0.02	A-T-019w			3	0.07	0.12	0.02	<0.02	<0.02	0.06	0.62	0.08	<0.02	<0.02	0.08	
TPH CWG (leachable)																									
Ali >C5-C6 (leachable)								µg/l	1	A-T-022w	1	15000	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Ali >C6-C8 (leachable)								µg/l	1	A-T-022w	1	15000	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Ali >C8-C10 (leachable)								µg/l	10	A-T-055w	1	300	3	23	<10	<10	<10	<10	<10	<10	23	<10	14	13	
Ali >C10-C12 (leachable)								µg/l	10	A-T-055w	10	300	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Ali >C12-C16 (leachable)								µg/l	10	A-T-055w	10	300	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Ali >C16-C21 (leachable)								µg/l	10	A-T-055w	10	300	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Ali >C21-C35 (leachable)								µg/l	20	A-T-055w	10	300	0	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Total Aliphatics (leachable)								µg/l	10	A-T-055w	10		0	<20	<20	<20	<20	<20	<20	<20	23	<20	<20	<20	
Aro >C5-C7 (leachable)								µg/l	1	A-T-022w	1	350	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Aro >C7-C9 (leachable)								µg/l	1	A-T-022w	1	350	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Aro >C9-C10 (leachable)								µg/l	10	A-T-055w	1	300	2	13	<10	11	<10								

Envirolab Job Number: 21/11537
Client: Ian Farmer Associates (Warrington)
Client Project Name: Glan Clwyd Hospital
Client Project Ref: 2230534

Lab Sample ID					22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6
Client Sample No					WS101	WS103	WS104	WS105	WS109	WS110
Client Sample ID					3.8	1.5	1.4	1.9	1.75	1.7
Depth to Top										
Depth to Bottom										
Date Sampled					25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22
Sample Type					Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW
Sample Matrix Code	Units	Limit of Detection	Method	Freshwater environmental quality standards						
pH (w)	pH	0.01	A-T-031w	<6,>9	7.72	7.68	7.46	7.54	8.08	8.24
Electrical Conductivity (w)	µs/cm	10	A-T-037w		990	944	839	883	2371	1730
Hardness Total (w)	mg/l Ca CO3	2	A-T-049w		539	323	325	415	788	446
Ammoniacal nitrogen as N (w)	mg/l	0.02	A-T-033w	0.6	0.03	0.5	0.02	0.02	0.04	0.03
Sulphate (w)	mg/l	1	A-T-026w	400	57	271	16	40	787	384
DOC (w)	mg/l	0.2	A-T-032w		34.4	165	243	33.1	20.2	71.6
Antimony (dissolved)	µg/l	1	A-T-025w		2	1	<1	<1	9	5
Arsenic (dissolved)	µg/l	1	A-T-025w	50	1	<1	<1	<1	1	<1
Boron (dissolved)	µg/l	10	A-T-025w	2000	81	39	44	58	259	84
Barium (dissolved)	µg/l	1	A-T-025w		89	109	107	85	45	55
Cadmium (dissolved)	µg/l	1	A-T-025w	0.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/l	1	A-T-025w	see below	3	3	10	5	3	3
Copper bioavailable	µg/l				1	0.07	0.17	0.09	0.89	3
Chromium (dissolved)	µg/l	1	A-T-025w	4.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (hexavalent) (dissolved)	mg/l	0.05	A-T-040w	3.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (trivalent) (dissolved)	mg/l	0.05	Calc	4.7	<0.01	<0.01	<0.01	<0.01	0.03	<0.01
Lead (dissolved)	µg/l	1	A-T-025w	see below	<1	<1	<1	<1	<1	<1
Lead bioavailable	µg/l				1.2	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury (dissolved)	µg/l	0.1	A-T-025w		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel (dissolved)	µg/l	1	A-T-025w	see below	2	10	5	3	1	<1
Nickel bioavailable	µg/l				4	0.23	1.13	0.52	0.32	0.15
Selenium (dissolved)	µg/l	1	A-T-025w		<1	2	<1	<1	120	2
Vanadium (dissolved)	µg/l	1	A-T-025w	60	<1	1	<1	<1	6	<1
Zinc (dissolved)	µg/l	1	A-T-025w	see below	4	7	11	4	19	3
Zinc bioavailable	µg/l				10.9	0.57	0.99	1.73	0.62	0.38
PAH 16MS (w)										
Acenaphthene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene (w)	µg/l	0.02	A-T-019w	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)anthracene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene (w)	µg/l	0.02	A-T-019w	0.00017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(b)fluoranthene (w)	µg/l	0.02	A-T-019w	0.00017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene (w)	µg/l	0.02	A-T-019w	0.00017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene (w)	µg/l	0.02	A-T-019w	0.00017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenzo(ah)anthracene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene (w)	µg/l	0.02	A-T-019w	0.0063	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluorene (leachable)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	0.02	<0.01	<0.01
Indeno(123-cd)pyrene (w)	µg/l	0.02	A-T-019w	0.00017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene (w)	µg/l	0.02	A-T-019w	2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene (w)	µg/l	0.02	A-T-019w		<0.01	0.02	<0.01	<0.01	0.04	<0.01
Pyrene (w)	µg/l	0.02	A-T-019w		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total PAH 16MS (w)	µg/l	0.02	A-T-019w		<0.01	0.01	<0.01	0.04	<0.01	<0.01
TPH CWG (w)										

Envirolab Job Number: 21/11537
Client: Ian Farmer Associates (Warrington)
Client Project Name: Glan Clwyd Hospital
Client Project Ref: 2230534

Lab Sample ID				22/00818/1	22/00818/2	22/00818/3	22/00818/4	22/00818/5	22/00818/6
Client Sample No				WS101	WS103	WS104	WS105	WS109	WS110
Client Sample ID				3.8	1.5	1.4	1.9	1.75	1.7
Depth to Top									
Depth to Bottom									
Date Sampled				25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22	25 Jan 22
Sample Type				Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW
Sample Matrix Code	Units	Limit of Detection	Method	Freshwater environmental quality standards					
Ali >C5-C6 (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
Ali >C6-C8 (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
Ali >C8-C10 (w)	µg/l	10	A-T-055w	<5	<5	<5	<5	<5	<5
Ali >C10-C12 (w)	µg/l	10	A-T-055w	<5	<5	<5	<5	<5	<5
Ali >C12-C16 (w)	µg/l	10	A-T-055w	<5	<5	<5	<5	<5	<5
Ali >C16-C21 (w)	µg/l	10	A-T-055w	<5	<5	<5	<5	<5	<5
Ali >C21-C35 (w)	µg/l	20	A-T-055w	18	<5	23	<5	<5	<5
Total Aliphatics (w)	µg/l	10	A-T-055w	18	<5	23	<5	<5	<5
Aro >C5-C7 (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
Aro >C7-C8 (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
Aro >C8-C10 (w)	µg/l	10	A-T-055w	<5	<5	6	<5	<5	<5
Aro >C10-C12 (w)	µg/l	10	A-T-055w	<5	<5	<5	<5	<5	<5
Aro >C12-C16 (w)	µg/l	10	A-T-055w	<5	6	13	<5	<5	<5
Aro >C16-C21 (w)	µg/l	10	A-T-055w	<5	9	5	<5	<5	<5
Total Aromatics (w)	µg/l	20	A-T-055w	<10	15	24	<10	<10	<10
TPH (Ali & Aro >C5-C35) (w)	µg/l	20	A-T-055w	18	15	24	<10	<10	<10
BTEX - Benzene (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
BTEX - Toluene (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
BTEX - Ethyl Benzene (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
BTEX - o Xylene (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
BTEX - m & p Xylene (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
MTBE (w)	µg/l	1	A-T-022w	<1	<1	<1	<1	<1	<1
Aro >C21-C35 (w)	µg/l	20	A-T-055w	<10	<10	<10	<10	<10	<10

Notes

Exceedance of GAC highlighted

Envirolab Job Number: 21/11537

Client: Ian Farmer Associates (Warrington)

Client Project Name: Glan Clwyd Hospital

Client Project Ref: 2230534

Lab Sample ID	Client Sample No	Client Sample ID	Depth to Top	Depth to Bottom	Date Sampled	Sample Type	Sample Matrix Code	Units	Limit of Detection	Method	Freshwater environmental quality standards	Maximum Concentration	21/11537/2	21/11537/5	21/11537/9	21/11537/15	21/11537/28	21/11537/34	21/11537/37	21/11537/42	21/11537/52	21/11537/56
													3	1	2	2	3	4	2	1	1	2
													TP101	TP102	TP104	WS101	WS103	WS104	WS105	WS106	WS109	WS110
													0.20	0.05	0.10	0.20	0.5	0.5	0.2	0.2	0.2	0.2
													12-Oct-21	12-Oct-21	15-Oct-21	13-Oct-21	12-Oct-21	13-Oct-21	13-Oct-21	14-Oct-21	14-Oct-21	14-Oct-21
													Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid	Solid	Soil - ES
													6A	6AE	6AE	6A	5AE	6A	6AE	7	7	4A
Ali >C10-C12 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ali >C12-C16 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ali >C16-C21 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ali >C21-C35 (leachable)	µg/l	20	A-T-055w	0	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Total Aliphatics (leachable)	µg/l	10	A-T-055w	23	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	23	<20	<20	<20
Aro >C5-C7 (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C7-C8 (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C8-C10 (leachable)	µg/l	10	A-T-055w	13	<10	11	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	13	<10	<10	<10	<10
Aro >C10-C12 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aro >C12-C16 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aro >C16-C21 (leachable)	µg/l	10	A-T-055w	0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total Aromatics (leachable)	µg/l	20	A-T-055w	0	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
TPH (Ali & Aro >C5-C35) (leachable)	µg/l	20	A-T-055w	36	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	36	<20	<20	<20
BTEX - Benzene (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BTEX - Toluene (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BTEX - Ethyl Benzene (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BTEX - o Xylene (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BTEX - m & p Xylene (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MTBE (leachable)	µg/l	1	A-T-022w	0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aro >C21-C35 (leachable)	µg/l	20	A-T-055w	0	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20

Notes

Exceedance of GAC highlighted

[1] Bioavailability assessments undertaken using EA m-BAT tool (v30.0, 2013)

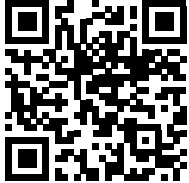
APPENDIX 4

HAZARDOUS WASTE ASSESSMENT OUTPUT

Waste Classification Report

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

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



006JU-VUV46-9VUH5

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

Job name

Glan Clwyd

Description/Comments

Project

1620007255

Site

ADULT AND OLDER PERSONS MENTAL HEALTH UNIT –
GLAN CLWYD HOSPITAL

Classified by

Name: **George Black**
Date: **06 Dec 2022 16:43 GMT**
Telephone: **+44 7814 065774**
Company: **Ramboll UK Ltd**
1 Broad Gate
The Headrow
Leeds
LS1 8EQ

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

HazWasteOnline™ Certification:	-
Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Ysbyty Glan Clwyd, Bodelwyddan, Denbighshire Post Code N/A

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Proposed site is currently a car park adjacent to the mortuary and pathology lab on the west side of the hospital site. Prior to being developed as a car park the site was a greenfield site.

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

Waste created during a ground investigation

Description of the waste

Made Ground comprising clay, gravel and sand. Gravels were a mix of, quartzite, limestone, mudstone. Superficial deposits predominantly comprising brown sandy gravelly CLAY. Gravel of sandstone, mudstone and quartzite and rare slate.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101	0.2	Non Hazardous		3
2	TP101[2]	0.7	Non Hazardous		5
3	TP102	0.05	Non Hazardous		8
4	TP102[2]	0.85	Non Hazardous		11
5	TP104	0.1	Non Hazardous		13
6	TP104[2]	0.3	Non Hazardous		16
7	TP104[3]	0.7	Non Hazardous		19
8	TP104[4]	1.6	Non Hazardous		22
9	WS101	0.2	Non Hazardous		24
10	WS101[2]	2	Non Hazardous		27
11	WS102	0.45	Non Hazardous		30
12	WS102[2]	1.2	Non Hazardous		33
13	WS102[3]	4.2	Non Hazardous		35
14	WS103	0.5	Non Hazardous		37
15	WS103[2]	3.5	Non Hazardous		40
16	WS104	0.5	Non Hazardous		42
17	WS105	0.2	Non Hazardous		44
18	WS105[2]	1.3	Non Hazardous		47
19	WS105[3]	2.1	Non Hazardous		50
20	WS106	0.2	Non Hazardous		53
21	WS106[2]	2	Non Hazardous		55
22	WS108	1	Non Hazardous		57
23	WS108[2]	2.2	Non Hazardous		59
24	WS109	0.2	Non Hazardous		62
25	WS109[2]	2	Non Hazardous		64
26	WS110	0.2	Non Hazardous		66
27	WS110[2]	1	Non Hazardous		69

Related documents

#	Name	Description
1	Ramboll Suite B, Asbestos	waste stream template used to create this Job

Report

Created by: George Black

Created date: 06 Dec 2022 16:43 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	71
Appendix B: Rationale for selection of metal species	72
Appendix C: Version	73

Classification of sample: TP101

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

Sample details

Sample name:	LoW Code:	
TP101	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.4	pH		9.4	pH	9.4 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	39.462	mg/kg	0.00395 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				17	mg/kg	1.126	19.14	mg/kg	0.00191 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	34	mg/kg	1.57	53.376	mg/kg	0.0034 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.66	mg/kg	1.353	0.893	mg/kg	0.0000893 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				23	mg/kg	1.546	35.565	mg/kg	0.00356 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	55.341	mg/kg	0.00553 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				75	mg/kg	2.469	185.197	mg/kg	0.0185 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0385 %		

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: TP101[2]

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

Sample details

Sample name:	LoW Code:	
TP101[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.7 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.09	pH		8.09	pH	8.09 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				1	mg/kg	5.719	5.719	mg/kg	0.000572 %	✓	
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				1.2	mg/kg	1.142	1.371	mg/kg	0.000137 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	39.462	mg/kg	0.00395 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				17	mg/kg	1.126	19.14	mg/kg	0.00191 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	105	mg/kg	1.57	164.839	mg/kg	0.0105 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				19	mg/kg	1.546	29.38	mg/kg	0.00294 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				32	mg/kg	1.785	57.126	mg/kg	0.00571 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				168	mg/kg	2.469	414.842	mg/kg	0.0415 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				8	mg/kg		8	mg/kg	0.0008 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0688 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0008%)

Classification of sample: TP102

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

Sample details

Sample name:	LoW Code:
TP102	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.05 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.53	pH		7.53	pH	7.53 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				1.2	mg/kg	5.719	6.863	mg/kg	0.000686 %	✓	
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				0.9	mg/kg	1.142	1.028	mg/kg	0.000103 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	39.462	mg/kg	0.00395 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	18.014	mg/kg	0.0018 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	137	mg/kg	1.57	215.076	mg/kg	0.0137 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				19	mg/kg	1.546	29.38	mg/kg	0.00294 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				33	mg/kg	1.785	58.911	mg/kg	0.00589 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				254	mg/kg	2.469	627.201	mg/kg	0.0627 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				16	mg/kg		16	mg/kg	0.0016 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0942 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0016%)

Classification of sample: TP102[2]

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

Sample details

Sample name:	LoW Code:	
TP102[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.85 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				10.06	pH		10.06	pH	10.06 pH		
2	arsenic { arsenic trioxide }				4	mg/kg	1.32	5.281	mg/kg	0.000528 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.942	mg/kg	0.000194 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	39.462	mg/kg	0.00395 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	18.014	mg/kg	0.0018 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	141	mg/kg	1.57	221.355	mg/kg	0.0141 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				22	mg/kg	1.546	34.019	mg/kg	0.0034 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				32	mg/kg	1.785	57.126	mg/kg	0.00571 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				250	mg/kg	2.469	617.324	mg/kg	0.0617 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0925 %		

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: TP104

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

Sample details

Sample name: **TP104** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.1 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.81	pH		8.81	pH	8.81 pH		
2	arsenic { arsenic trioxide }				2	mg/kg	1.32	2.641	mg/kg	0.000264 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18	mg/kg	1.462	26.308	mg/kg	0.00263 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				19	mg/kg	1.126	21.392	mg/kg	0.00214 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	41	mg/kg	1.57	64.366	mg/kg	0.0041 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.55	mg/kg	1.353	0.744	mg/kg	0.0000744 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				17	mg/kg	1.546	26.287	mg/kg	0.00263 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				23	mg/kg	1.785	41.059	mg/kg	0.00411 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				88	mg/kg	2.469	217.298	mg/kg	0.0217 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				53	mg/kg		53	mg/kg	0.0053 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.044 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0053%)

Classification of sample: TP104[2]


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

Sample details

Sample name:	LoW Code:
TP104[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				6.69	pH		6.69	pH	6.69 pH		
2	arsenic { arsenic trioxide }				2	mg/kg	1.32	2.641	mg/kg	0.000264 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				1	mg/kg	1.142	1.142	mg/kg	0.000114 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25	mg/kg	1.462	36.539	mg/kg	0.00365 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				19	mg/kg	1.126	21.392	mg/kg	0.00214 %	✓	
8	lead { lead di(acetate) }			1	71	mg/kg	1.57	111.463	mg/kg	0.0071 %	✓	
9	mercury { mercury dichloride }				0.21	mg/kg	1.353	0.284	mg/kg	0.0000284 %	✓	
10	nickel { nickel sulfide }				18	mg/kg	1.546	27.834	mg/kg	0.00278 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				30	mg/kg	1.785	53.556	mg/kg	0.00536 %	✓	
13	zinc { zinc sulphate }				139	mg/kg	2.469	343.232	mg/kg	0.0343 %	✓	
14	TPH (C6 to C40) petroleum group				10	mg/kg		10	mg/kg	0.001 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0577 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.001%)

Classification of sample: TP104[3]

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

Sample details

Sample name:	LoW Code:	
TP104[3]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.7 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				8.71 pH		8.71 pH	8.71 pH		
2	arsenic { arsenic trioxide }				4 mg/kg	1.32	5.281 mg/kg	0.000528 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	boron { boric acid; [1] boric acid [2] }				1.1 mg/kg	5.719	6.291 mg/kg	0.000629 %	✓	
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]							
4	cadmium { cadmium oxide }				2.5 mg/kg	1.142	2.856 mg/kg	0.000286 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				29 mg/kg	1.462	42.385 mg/kg	0.00424 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
7	copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	18.014 mg/kg	0.0018 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead di(acetate) }			1	162 mg/kg	1.57	254.323 mg/kg	0.0162 %	✓	
	082-005-00-8	206-104-4	301-04-2							
9	mercury { mercury dichloride }				<0.17 mg/kg	1.353	<0.23 mg/kg	<0.000023 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel sulfide }				23 mg/kg	1.546	35.565 mg/kg	0.00356 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				36 mg/kg	1.785	64.267 mg/kg	0.00643 %	✓	
	023-001-00-8	215-239-8	1314-62-1							
13	zinc { zinc sulphate }				305 mg/kg	2.469	753.135 mg/kg	0.0753 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
14	TPH (C6 to C40) petroleum group				1 mg/kg		1 mg/kg	0.0001 %	✓	
			TPH							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.11 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0001%)

Classification of sample: TP104[4]


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

Sample details

Sample name:	LoW Code:	
TP104[4]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.6 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.66	pH		9.66	pH	9.66 pH		
2	arsenic { arsenic trioxide }				<1	mg/kg	1.32	<1.32	mg/kg	<0.000132 %		<LOD
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				39	mg/kg	1.462	57.001	mg/kg	0.0057 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				20	mg/kg	1.126	22.518	mg/kg	0.00225 %	✓	
8	lead { lead di(acetate) }			1	10	mg/kg	1.57	15.699	mg/kg	0.001 %	✓	
9	mercury { mercury dichloride }				0.79	mg/kg	1.353	1.069	mg/kg	0.000107 %	✓	
10	nickel { nickel sulfide }				35	mg/kg	1.546	54.121	mg/kg	0.00541 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				43	mg/kg	1.785	76.763	mg/kg	0.00768 %	✓	
13	zinc { zinc sulphate }				54	mg/kg	2.469	133.342	mg/kg	0.0133 %	✓	
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0367 %		

Key

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

Classification of sample: WS101


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

Sample details

Sample name:	LoW Code:
WS101	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.67	pH		8.67	pH	8.67 pH		
2	arsenic { arsenic trioxide }				2	mg/kg	1.32	2.641	mg/kg	0.000264 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				1	mg/kg	1.142	1.142	mg/kg	0.000114 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24	mg/kg	1.462	35.077	mg/kg	0.00351 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				15	mg/kg	1.126	16.888	mg/kg	0.00169 %	✓	
8	lead { lead di(acetate) }			1	58	mg/kg	1.57	91.054	mg/kg	0.0058 %	✓	
9	mercury { mercury dichloride }				0.23	mg/kg	1.353	0.311	mg/kg	0.0000311 %	✓	
10	nickel { nickel sulfide }				24	mg/kg	1.546	37.112	mg/kg	0.00371 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				27	mg/kg	1.785	48.2	mg/kg	0.00482 %	✓	
13	zinc { zinc sulphate }				142	mg/kg	2.469	350.64	mg/kg	0.0351 %	✓	
14	TPH (C6 to C40) petroleum group				39	mg/kg		39	mg/kg	0.0039 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0599 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0039%)

Classification of sample: WS101[2]

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

Sample details

Sample name:	LoW Code:	
WS101[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.21	pH		9.21	pH	9.21 pH		
2	arsenic { arsenic trioxide }				1	mg/kg	1.32	1.32	mg/kg	0.000132 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				33	mg/kg	1.462	48.231	mg/kg	0.00482 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				18	mg/kg	1.126	20.266	mg/kg	0.00203 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	11	mg/kg	1.57	17.269	mg/kg	0.0011 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.38	mg/kg	1.353	0.514	mg/kg	0.0000514 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				33	mg/kg	1.546	51.028	mg/kg	0.0051 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				37	mg/kg	1.785	66.052	mg/kg	0.00661 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				48	mg/kg	2.469	118.526	mg/kg	0.0119 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				10	mg/kg		10	mg/kg	0.001 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0337 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.001%)

Classification of sample: WS102


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

Sample details

Sample name:	LoW Code:	
WS102	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.45 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.29	pH		8.29	pH	8.29 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
3	boron { boric acid; [1] boric acid [2] }				1.1	mg/kg	5.719	6.291	mg/kg	0.000629 %	✓	
4	cadmium { cadmium oxide }				1.2	mg/kg	1.142	1.371	mg/kg	0.000137 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23	mg/kg	1.462	33.616	mg/kg	0.00336 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				14	mg/kg	1.126	15.762	mg/kg	0.00158 %	✓	
8	lead { lead di(acetate) }			1	71	mg/kg	1.57	111.463	mg/kg	0.0071 %	✓	
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
10	nickel { nickel sulfide }				18	mg/kg	1.546	27.834	mg/kg	0.00278 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	55.341	mg/kg	0.00553 %	✓	
13	zinc { zinc sulphate }				150	mg/kg	2.469	370.394	mg/kg	0.037 %	✓	
14	TPH (C6 to C40) petroleum group				7	mg/kg		7	mg/kg	0.0007 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0597 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0007%)

Classification of sample: WS102[2]

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

Sample details

Sample name:	LoW Code:	
WS102[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH		PH		8.36 pH		8.36 pH	8.36 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	3 mg/kg	1.32	3.961 mg/kg	0.000396 %	✓	
3	boron { boric acid; [1] boric acid [2] }	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]	<1 mg/kg	5.719	<5.719 mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	36 mg/kg	1.462	52.616 mg/kg	0.00526 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	19 mg/kg	1.126	21.392 mg/kg	0.00214 %	✓	
8	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	13 mg/kg	1.57	20.409 mg/kg	0.0013 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.17 mg/kg	1.353	<0.23 mg/kg	<0.000023 %		<LOD
10	nickel { nickel sulfide }	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]	40 mg/kg	1.546	61.853 mg/kg	0.00619 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1	37 mg/kg	1.785	66.052 mg/kg	0.00661 %	✓	
13	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]	46 mg/kg	2.469	113.588 mg/kg	0.0114 %	✓	
14	TPH (C6 to C40) petroleum group			TPH	<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0344 %		

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: WS102[3]

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

Sample details

Sample name:	LoW Code:	
WS102[3]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
4.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.25	pH		9.25	pH	9.25 pH		
2	arsenic { arsenic trioxide }				<1	mg/kg	1.32	<1.32	mg/kg	<0.000132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35	mg/kg	1.462	51.154	mg/kg	0.00512 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				20	mg/kg	1.126	22.518	mg/kg	0.00225 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	9	mg/kg	1.57	14.129	mg/kg	0.0009 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.45	mg/kg	1.353	0.609	mg/kg	0.0000609 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				34	mg/kg	1.546	52.575	mg/kg	0.00526 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				38	mg/kg	1.785	67.837	mg/kg	0.00678 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				51	mg/kg	2.469	125.934	mg/kg	0.0126 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0342 %		

Key

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

Classification of sample: WS103

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

Sample details

Sample name: **WS103** LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth: **0.5 m** Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.8	pH		8.8	pH	8.8 pH		
2	arsenic { arsenic trioxide }				2	mg/kg	1.32	2.641	mg/kg	0.000264 %	✔	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22	mg/kg	1.462	32.154	mg/kg	0.00322 %	✔	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				14	mg/kg	1.126	15.762	mg/kg	0.00158 %	✔	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	30	mg/kg	1.57	47.097	mg/kg	0.003 %	✔	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.86	mg/kg	1.353	1.164	mg/kg	0.000116 %	✔	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				19	mg/kg	1.546	29.38	mg/kg	0.00294 %	✔	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	44.63	mg/kg	0.00446 %	✔	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				67	mg/kg	2.469	165.443	mg/kg	0.0165 %	✔	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				29	mg/kg		29	mg/kg	0.0029 %	✔	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				0.05 mg/kg		0.05 mg/kg	0.000005 %	✓		
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0361 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0029%)

Classification of sample: WS103[2]


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

Sample details

Sample name:	LoW Code:
WS103[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
3.5 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.28	pH		9.28	pH	9.28 pH		
2	arsenic { arsenic trioxide }				6	mg/kg	1.32	7.922	mg/kg	0.000792 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38	mg/kg	1.462	55.539	mg/kg	0.00555 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				19	mg/kg	1.126	21.392	mg/kg	0.00214 %	✓	
8	lead { lead di(acetate) }			1	10	mg/kg	1.57	15.699	mg/kg	0.001 %	✓	
9	mercury { mercury dichloride }				0.59	mg/kg	1.353	0.799	mg/kg	0.0000799 %	✓	
10	nickel { nickel sulfide }				37	mg/kg	1.546	57.214	mg/kg	0.00572 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				42	mg/kg	1.785	74.978	mg/kg	0.0075 %	✓	
13	zinc { zinc sulphate }				57	mg/kg	2.469	140.75	mg/kg	0.0141 %	✓	
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.038 %		

Key

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

Classification of sample: WS104


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

Sample details

Sample name:	LoW Code:
WS104	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.48	pH		8.48	pH	8.48 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20	mg/kg	1.462	29.231	mg/kg	0.00292 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				10	mg/kg	1.126	11.259	mg/kg	0.00113 %	✓	
8	lead { lead di(acetate) }			1	21	mg/kg	1.57	32.968	mg/kg	0.0021 %	✓	
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
10	nickel { nickel sulfide }				16	mg/kg	1.546	24.741	mg/kg	0.00247 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	44.63	mg/kg	0.00446 %	✓	
13	zinc { zinc sulphate }				39	mg/kg	2.469	96.303	mg/kg	0.00963 %	✓	
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0243 %		

Key

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

Classification of sample: WS105


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

Sample details

Sample name:	LoW Code:
WS105	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				3.64	pH		3.64	pH	3.64 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.942	mg/kg	0.000194 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19	mg/kg	1.462	27.77	mg/kg	0.00278 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				12	mg/kg	1.126	13.511	mg/kg	0.00135 %	✓	
8	lead { lead di(acetate) }			1	122	mg/kg	1.57	191.527	mg/kg	0.0122 %	✓	
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
10	nickel { nickel sulfide }				15	mg/kg	1.546	23.195	mg/kg	0.00232 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				28	mg/kg	1.785	49.985	mg/kg	0.005 %	✓	
13	zinc { zinc sulphate }				289	mg/kg	2.469	713.627	mg/kg	0.0714 %	✓	
14	TPH (C6 to C40) petroleum group				17	mg/kg		17	mg/kg	0.0017 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0983 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0017%)

Classification of sample: WS105[2]

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

Sample details

Sample name:	LoW Code:	
WS105[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.3 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.08	pH		9.08	pH	9.08 pH		
2	arsenic { arsenic trioxide }				<1	mg/kg	1.32	<1.32	mg/kg	<0.000132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				36	mg/kg	1.462	52.616	mg/kg	0.00526 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				19	mg/kg	1.126	21.392	mg/kg	0.00214 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	10	mg/kg	1.57	15.699	mg/kg	0.001 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				35	mg/kg	1.546	54.121	mg/kg	0.00541 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				38	mg/kg	1.785	67.837	mg/kg	0.00678 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				56	mg/kg	2.469	138.281	mg/kg	0.0138 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				13	mg/kg		13	mg/kg	0.0013 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0369 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0013%)

Classification of sample: WS105[3]


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

Sample details

Sample name:	LoW Code:
WS105[3]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.1 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.17	pH		9.17	pH	9.17 pH		
2	arsenic { arsenic trioxide }				4	mg/kg	1.32	5.281	mg/kg	0.000528 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				31	mg/kg	1.462	45.308	mg/kg	0.00453 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				18	mg/kg	1.126	20.266	mg/kg	0.00203 %	✓	
8	lead { lead di(acetate) }			1	9	mg/kg	1.57	14.129	mg/kg	0.0009 %	✓	
9	mercury { mercury dichloride }				0.51	mg/kg	1.353	0.69	mg/kg	0.000069 %	✓	
10	nickel { nickel sulfide }				32	mg/kg	1.546	49.482	mg/kg	0.00495 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				35	mg/kg	1.785	62.481	mg/kg	0.00625 %	✓	
13	zinc { zinc sulphate }				57	mg/kg	2.469	140.75	mg/kg	0.0141 %	✓	
14	TPH (C6 to C40) petroleum group				1	mg/kg		1	mg/kg	0.0001 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0345 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0001%)

Classification of sample: WS106

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

Sample details

Sample name:	LoW Code:	
WS106	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.6	pH		9.6	pH	9.6 pH		
2	arsenic { arsenic trioxide }				<1	mg/kg	1.32	<1.32	mg/kg	<0.000132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6	mg/kg	1.462	8.769	mg/kg	0.000877 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				6	mg/kg	1.126	6.755	mg/kg	0.000676 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	3	mg/kg	1.57	4.71	mg/kg	0.0003 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				4.76	mg/kg	1.353	6.443	mg/kg	0.000644 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				10	mg/kg	1.546	15.463	mg/kg	0.00155 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				7	mg/kg	1.785	12.496	mg/kg	0.00125 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				11	mg/kg	2.469	27.162	mg/kg	0.00272 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.00927 %		

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: WS106[2]

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

Sample details

Sample name:	LoW Code:	
WS106[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.33	pH		9.33	pH	9.33 pH		
2	arsenic { arsenic trioxide }				2	mg/kg	1.32	2.641	mg/kg	0.000264 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				29	mg/kg	1.462	42.385	mg/kg	0.00424 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	18.014	mg/kg	0.0018 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	9	mg/kg	1.57	14.129	mg/kg	0.0009 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.9	mg/kg	1.353	1.218	mg/kg	0.000122 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				30	mg/kg	1.546	46.389	mg/kg	0.00464 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				30	mg/kg	1.785	53.556	mg/kg	0.00536 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				47	mg/kg	2.469	116.057	mg/kg	0.0116 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0301 %		

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: WS108

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

Sample details

Sample name:	LoW Code:	
WS108	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.38	pH		8.38	pH	8.38 pH		
2	arsenic { arsenic trioxide }				<1	mg/kg	1.32	<1.32	mg/kg	<0.000132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42	mg/kg	1.462	61.385	mg/kg	0.00614 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				35	mg/kg	1.126	39.406	mg/kg	0.00394 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	17	mg/kg	1.57	26.688	mg/kg	0.0017 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				<0.17	mg/kg	1.353	<0.23	mg/kg	<0.000023 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				35	mg/kg	1.546	54.121	mg/kg	0.00541 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				43	mg/kg	1.785	76.763	mg/kg	0.00768 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				98	mg/kg	2.469	241.991	mg/kg	0.0242 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0504 %		

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: WS108[2]

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

Sample details

Sample name:	LoW Code:	
WS108[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.37	pH		9.37	pH	9.37 pH		
2	arsenic { arsenic trioxide }				4	mg/kg	1.32	5.281	mg/kg	0.000528 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				48	mg/kg	1.462	70.155	mg/kg	0.00702 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	29.273	mg/kg	0.00293 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	15	mg/kg	1.57	23.548	mg/kg	0.0015 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.63	mg/kg	1.353	0.853	mg/kg	0.0000853 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				51	mg/kg	1.546	78.862	mg/kg	0.00789 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				51	mg/kg	1.785	91.044	mg/kg	0.0091 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				78	mg/kg	2.469	192.605	mg/kg	0.0193 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				1	mg/kg		1	mg/kg	0.0001 %	✓	
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.0494 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition


Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0001%)

Classification of sample: WS109


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

Sample details

Sample name:	LoW Code:	
WS109	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.89	pH		9.89	pH	9.89 pH		
2	arsenic { arsenic trioxide }				3	mg/kg	1.32	3.961	mg/kg	0.000396 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				10	mg/kg	1.462	14.616	mg/kg	0.00146 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				15	mg/kg	1.126	16.888	mg/kg	0.00169 %	✓	
8	lead { lead di(acetate) }			1	7	mg/kg	1.57	10.989	mg/kg	0.0007 %	✓	
9	mercury { mercury dichloride }				4.58	mg/kg	1.353	6.199	mg/kg	0.00062 %	✓	
10	nickel { nickel sulfide }				17	mg/kg	1.546	26.287	mg/kg	0.00263 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				9	mg/kg	1.785	16.067	mg/kg	0.00161 %	✓	
13	zinc { zinc sulphate }				20	mg/kg	2.469	49.386	mg/kg	0.00494 %	✓	
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0152 %		

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: WS109[2]


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

Sample details

Sample name:	LoW Code:
WS109[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2 m	

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)


#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.65	pH		9.65	pH	9.65 pH		
2	arsenic { arsenic trioxide }				4	mg/kg	1.32	5.281	mg/kg	0.000528 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				57	mg/kg	1.462	83.309	mg/kg	0.00833 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				27	mg/kg	1.126	30.399	mg/kg	0.00304 %	✓	
8	lead { lead di(acetate) }			1	14	mg/kg	1.57	21.979	mg/kg	0.0014 %	✓	
9	mercury { mercury dichloride }				1	mg/kg	1.353	1.353	mg/kg	0.000135 %	✓	
10	nickel { nickel sulfide }				52	mg/kg	1.546	80.408	mg/kg	0.00804 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				64	mg/kg	1.785	114.252	mg/kg	0.0114 %	✓	
13	zinc { zinc sulphate }				79	mg/kg	2.469	195.074	mg/kg	0.0195 %	✓	
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.0535 %		

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: WS110

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

Sample details

Sample name:	LoW Code:	
WS110	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.63	pH		9.63	pH	9.63 pH		
2	arsenic { arsenic trioxide }				1	mg/kg	1.32	1.32	mg/kg	0.000132 %	✓	
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4	mg/kg	1.462	5.846	mg/kg	0.000585 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }				8	mg/kg	1.126	9.007	mg/kg	0.000901 %	✓	
8	lead { lead di(acetate) }			1	3	mg/kg	1.57	4.71	mg/kg	0.0003 %	✓	
9	mercury { mercury dichloride }				2.41	mg/kg	1.353	3.262	mg/kg	0.000326 %	✓	
10	nickel { nickel sulfide }				13	mg/kg	1.546	20.102	mg/kg	0.00201 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				4	mg/kg	1.785	7.141	mg/kg	0.000714 %	✓	
13	zinc { zinc sulphate }				8	mg/kg	2.469	19.754	mg/kg	0.00198 %	✓	
14	TPH (C6 to C40) petroleum group				3	mg/kg		3	mg/kg	0.0003 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	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							
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
		205-893-2	193-39-5							
35	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							
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
Total:								0.00827 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because hazard unlikely given site setting and composition

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0003%)

Classification of sample: WS110[2]

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

Sample details

Sample name:	LoW Code:	
WS110[2]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				9.3	pH		9.3	pH	9.3 pH		
2	arsenic { arsenic trioxide }				22	mg/kg	1.32	29.047	mg/kg	0.0029 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	boron { boric acid; [1] boric acid [2] }				<1	mg/kg	5.719	<5.719	mg/kg	<0.000572 %		<LOD
	005-007-00-2	233-139-2 [1] 234-343-4 [2]	10043-35-3 [1] 11113-50-1 [2]									
4	cadmium { cadmium oxide }				<0.5	mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				40	mg/kg	1.462	58.462	mg/kg	0.00585 %	✓	
		215-160-9	1308-38-9									
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
7	copper { dicopper oxide; copper (I) oxide }				43	mg/kg	1.126	48.413	mg/kg	0.00484 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
8	lead { lead di(acetate) }			1	20	mg/kg	1.57	31.398	mg/kg	0.002 %	✓	
	082-005-00-8	206-104-4	301-04-2									
9	mercury { mercury dichloride }				0.56	mg/kg	1.353	0.758	mg/kg	0.0000758 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
10	nickel { nickel sulfide }				49	mg/kg	1.546	75.769	mg/kg	0.00758 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]									
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				44	mg/kg	1.785	78.548	mg/kg	0.00785 %	✓	
	023-001-00-8	215-239-8	1314-62-1									
13	zinc { zinc sulphate }				64	mg/kg	2.469	158.035	mg/kg	0.0158 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
14	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>						
16	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
17	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
18	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
19	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
20	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
21	naphthalene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
	601-052-00-2	202-049-5	91-20-3								
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		205-917-1	208-96-8								
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-469-6	83-32-9								
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
		201-695-5	86-73-7								
25	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		201-581-5	85-01-8								
26	anthracene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
		204-371-1	120-12-7								
27	fluoranthene				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
		205-912-4	206-44-0								
28	pyrene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
		204-927-3	129-00-0								
29	benzo[a]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD	
	601-033-00-9	200-280-6	56-55-3								
30	chrysene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD	
	601-048-00-0	205-923-4	218-01-9								
31	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
	601-034-00-4	205-911-9	205-99-2								
32	benzo[k]fluoranthene				<0.07 mg/kg		<0.07 mg/kg	<0.000007 %		<LOD	
	601-036-00-5	205-916-6	207-08-9								
33	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								
34	indeno[123-cd]pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD	
		205-893-2	193-39-5								
35	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								
36	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD	
		205-883-8	191-24-2								
Total:									0.048 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

• pH (CAS Number: PH)

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

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

Description/Comments: Data from C&L Inventory Database
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• lead di(acetate) (EC Number: 206-104-4, CAS Number: 301-04-2)

GB MCL index number: 082-005-00-8
Description/Comments: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2.
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

• divanadium pentoxide; vanadium pentoxide (EC Number: 215-239-8, CAS Number: 1314-62-1)

GB MCL index number: 023-001-00-8
Description/Comments:
Additional Hazard Statement(s): Carc. 1B; H350 , Acute Tox. 3; H301 , Acute Tox. 2; H330
Reason for additional Hazards Statement(s):
20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].
Substance has therefore been self-classified.

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

• confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

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

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

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

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 21 Aug 2015

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

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

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

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

Data source date: 21 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

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

Data source date: 23 Jul 2015

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic 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.

boron {boric acid; [1] boric acid [2]}

Most common species found in the environment.

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. 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.

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.

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments.

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. Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead di(acetate)}

most likely given site setting

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel sulfide}

Most likely given site setting

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Only vanadium species available.

zinc {zinc sulphate}

most likely given site setting

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2022.325.5408.10064 (21 Nov 2022)

HazWasteOnline Database: 2022.325.5408.10064 (21 Nov 2022)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021