

PHASE II GEO-ENVIRONMENTAL ASSESSMENT REPORT

FINAL

Coleg Sir Gar – Pibwrlwyd Campus

February 2023



CIVIL | STRUCTURAL | GEOTECHNICAL & ENVIRONMENTAL | TRAFFIC AND TRANSPORT

Lawrence House | 6 Meadowbank Way | Nottingham | NG16 3SB
01773 535555 | design@hspconsulting.com | www.hspconsulting.com

Coleg Sir Gar Pibwrlwyd Campus Pibwrlwyd Lane

Phase II Geo-Environmental Assessment Report

This report was produced by HSP Consulting Engineers Ltd for Gleeds Management Services Ltd as the Phase II Geo-environmental Assessment Report for Coleg Sir Gar - Pibwrlwyd Campus to identify possible areas of contamination and provide an assessment of potential ground related development constraints and to support a feasibility study.

This report may not be used by any person other than Gleeds Management Services Ltd and must not be relied upon by any other party without the explicit written permission of HSP Consulting Engineers Ltd. In any event, HSP Consulting Engineers Ltd accepts no liability for any costs, liabilities or losses arising as a result of the use or reliance upon the contents of this report by any person other than Gleeds Management Services Ltd.

All parties to this report do not intend any of the terms of the Contracts (Rights of Third Party Act 1999) to apply to this report. Please note that this report does not purport to provide definitive legal advice.

Issue & Revision History

Revision	Status	Originated	Checked	Approved	Date
-	FINAL	N. Shafii B.Sc. (Hons), MSc, FGS	K. Murray BSc (Hons), MSc FGS, MIMMM	H.Pratt B.Eng (Hons), C.Eng, F.Cons.E, M.I.C.E, MI Mgt.	16.02.2023
Project Number: HSP2023-C4103-G-GPII-1308				Document Reference: C4103/PII	

This document is available in hard copy, please contact the author to obtain a copy.

HSP Consulting Engineers Ltd, Lawrence House, 6 Meadowbank Way, Nottingham, NG16 3SB
T 01773 535 555 W www.hspconsulting.com



Contents

1.	Introduction	1
1.1	Background	1
1.2	Client Brief & Scope	1
1.3	Report Objectives.....	1
1.4	Limitations	2
1.5	Previous Reports.....	2
2.	Review of Existing Information & Geoenvironmental Setting	3
2.1	The Site.....	3
2.2	Geology.....	4
2.3	Pertinent Site Sensitivity Information.....	4
3.	Fieldwork & Factual Information	5
3.1	Exploratory Methods	5
3.2	In-situ Testing	5
3.3	Laboratory Testing	5
3.4	Ground Conditions	6
3.5	Groundwater Levels	7
3.6	Ground Gas Monitoring.....	7
3.7	Visual and Olfactory Evidence of Contamination	8
4.	Geotechnical Assessment	9
4.1	Detailed Ground Model	9
4.2	Earthworks	10
4.3	Excavations.....	10
4.4	Foundations	11
4.5	Ground Floor Slab.....	12
4.6	Concrete Classification	12
4.7	Pavement Design.....	12
4.8	Infiltration Drainage	12
5.	Environmental Assessment	14
5.1	Introduction	14
5.2	Assessment of Soil Analysis Results	15
5.3	Human Health Mitigation.....	15
5.4	Protection of Controlled Waters	15



5.5	Ground Gas Risk Assessment	15
5.6	Water Supply	16
5.7	Waste Classification	16
5.8	Updated Conceptual Site Model	17
6.	Development Constraints.....	19
7.	References	20

Appendices

Appendix I	-	Site Location Plan
Appendix II	-	Site Test to Fit Plan (Proposed Development)
Appendix III	-	Exploratory Borehole Logs
Appendix IV	-	Ground Investigation Layout Plan
Appendix V	-	Chemical Analysis Results
Appendix VI	-	Geotechnical Test Results
Appendix VII	-	Ground Gas Monitoring Results
Appendix VIII	-	HazWasteOnline™ Waste Classification Results

Executive Summary

HSP Consulting Engineers Ltd has been commissioned by Gleeds Management Services Ltd to provide a Phase II Geo-environmental Assessment report providing information on likely constraints to the development of the site, parameters for design and recommendations for any mitigation measures to support a feasibility study.

The site is located approximately 2.7km south from the town of Carmarthen and is accessed from Pibwrlwyd Lane. The approximate National Grid Reference for the centre of the site is 241198, 218295. The proposed outline development options indicate a three storey building, car parking and games court.

The ground investigation comprised twelve windowless sample boreholes to a maximum depth of 4.00m begl and three cable percussive boreholes to a maximum depth of 6.60m begl. The geology of the site comprises limited Made Ground over superficial Glaciofluvial deposits overlying bedrock deposits of the Tetragraptus Beds.

It is considered conventional strip or pad foundations could be utilised within natural deposits designed to a net allowable bearing pressure of 125kN/m² at 1.00m begl increasing to 160kN/m² at 2.00m begl to limit total settlements to 25mm and differential settlements to acceptable limits. Localised deepening may be required where soft/loose deposits are encountered (WS08: 1.00m) and placed within competent strata.

The screening process for on-site human health receptors show that the GACs for a residential without home grown produce setting were not exceeded. The concentrations of potential contaminants recorded at the site indicates an acceptably low risk and therefore mitigation measures are not required as part of the development.

Ground gas monitoring has been undertaken on four occasions. Comparison of the results with Table 2 of BS8485:2015 + A1:2019 indicates that the site falls into a Characteristic Situation 1, however the site is located within an area where 3% to 5% of the properties are above the action level for radon and therefore basic radon measures will be required for any new development.

The results of sulphate and pH testing carried out on selected soil samples taken during this investigation indicate it is appropriate to adopt a basic Design Sulphate Class of DS-1 together with and Aggressive Chemical Environment for Concrete (ACEC) of AC-1.

The use of plastic (PE) water supply pipes is likely to be suitable if located in natural ground. However, specific targeted testing may be required by the utility provider once the development and water supply pipe route(s) have been confirmed.

The executive summary contains an overview of key findings and conclusions. However, no reliance should be placed on the executive summary until the whole of the report has been read. Other sections of the report may contain information which puts into context the findings noted within the executive summary.



1. Introduction

1.1 Background

This report has been prepared to support a feasibility study for a proposed scheme at the further education site. The assumed development is based upon the 'Site Test to Fit Coleg Sir Gar' May 2022, completed by Scott Brownrigg, provided by the client. The document provides four current options indicating the proposed likely building configuration, car parking and games court. The proposals are included in Appendix II

1.2 Client Brief & Scope

HSP Consulting Engineers Ltd has been commissioned by Gleeds Management Services Ltd to undertake an intrusive ground investigation at the site to investigate the existing ground conditions and provide information on likely constraints to development, preliminary parameters for design and recommendations for any mitigation measures to support a feasibility study.

The report presents the following information:

- a summary of the previous Geo-environmental Reports (Section 1.5 below),
- details of the ground investigation undertaken, and the ground conditions encountered,
- details and results of the geotechnical testing and contamination analysis,
- recommendations for mitigating constraints to the proposed development where appropriate and providing preliminary parameters for foundation design.

The human health risk assessment reported within Section 5 follows the principles given in the Land Contamination Risk Management (LCRM) Guidance.

Where applicable, the fieldwork was undertaken in accordance with BS5930:2015+A1:2020 Code of Practice for Ground Investigations and BS10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.

1.3 Report Objectives

The objectives of this report are to:

- establish the geological and hydrogeological conditions using existing available/published information.
- summarise available information and identify site specific geotechnical and environmental hazards which may place a constraint upon the proposed site use.
- produce an updated Conceptual Site Model identifying potential pollution linkages between sources of contamination, pathways and receptors.

1.4 Limitations

The recommendations made in this report are based on the findings of the intrusive ground investigation undertaken by HSP Consulting Engineers Ltd between the 1st to 7th November 2022.

1.5 Previous Reports

HSP Consulting Engineers Ltd have previously produced a Phase I Desk Study Report for the site, details of which can be found below:

- HSP Consulting Engineers Limited, Coleg Sir Gar - Pibwrlwyd Campus - Phase I Geo-Environmental Desk Study Report, November 2022, Ref: HSP2022-C4103-G-GPI-1111. (Ref 1.)

This phase II geo-environmental assessment should be read in conjunction with the findings of the phase I desk study referenced above.

Previous ground investigation reports covering the area immediately south of the site have been made available. These reports have been reviewed and, where applicable, summarised below within this report:

- Quantum Geotech, Pibwrlwyd Campus, Coleg Sir Gar, Carmarthen – Phase II Ground Investigation Interpretative Report, December 2021, Ref: Q0643/IR.

1.5.1 Summary of Previous Site Investigations

In general the main findings are listed below:

- The ground conditions encountered comprised of anthropogenic Topsoil over deep Made Ground deposits (1.60m begl to >3.70m begl) overlying Alluvium composed of fine deposits with low coarse content. The base of the Alluvium was not proven.
- 'Wet' conditions were observed below 3.40m in WS02 only. Groundwater monitoring revealed groundwater levels between 2.46m to 3.90m begl.
- SPT N Values obtained during the investigation varied between 8 and 50 in the natural deposits.
- There were no exceedances of contaminants recorded against a residential without plant uptake end use threshold guideline values and therefore are not considered to potentially pose a significant risk to end users of the proposed development.
- Traditional foundations are unlikely to be suitable due to deep Made Ground encountered.
- Based on the ground gas monitoring from three visits, the site is classified as Characteristic Situation 2.

2. Review of Existing Information & Geoenvironmental Setting

2.1 The Site

2.1.1 Location

The site is located approximately 2.7km south from the town of Carmarthen and is accessed from Pibwrlwyd Lane. The approximate National Grid Reference for the centre of the site is 241198, 218295. A Site Location Plan is included in Appendix I.

2.1.2 Description

The site is irregular in shape and is approximately 4.11Ha in area. Vehicle access is gained from the south of the site off Pibwrlwyd Lane, which runs south along the length of the site.

The site is split into two distinct zones with a trackway separating the two zones; the east zone comprises an agricultural field which was fallow at the time of the walkover and the west zone is developed.

The developed area is occupied by Coleg Sir Gar and is comprised of eight mixed storey buildings with associated hardstanding and soft landscaped areas. The buildings are mixed CLASP-style buildings with flat roofs or brick and concrete spray with pitched roof. A large car park is present on the northeast section of the developed area and a smaller car park is present centrally south of the developed area. Two storage container and a skip are present in the small car park.

The topography of the site as observed on Google Earth Aerial Imagery was from 25m AOD in the north sloping to 13m AOD in the south of the site.

The site boundaries are comprised of mixed metal fencing, mature trees and hedgerow.

No visual or olfactory evidence of contamination was identified during the walkover.

2.1.3 Surrounding Land Use

The main features of interest identified are:

- North: Agricultural fields.
- East: Agricultural fields.
- South: Coleg Sir Gar and residential housing.
- West: A484, residential housing and agricultural fields.

2.1.4 Proposed End Use

Proposed outline development options are provided within the 'Site Test to Fit' provided in Appendix II. Proposed outline development options are provided within the 'Site Test to Fit' provided in Appendix II. The proposals include a three storey building, carparking and games court.

2.2 Geology

2.2.1 Made Ground

The BGS mapping does not indicate any Made Ground on the site.

2.2.2 Superficial Deposits

BGS mapping shows the site is underlain by Till in the east of the site and Glaciofluvial Deposits in the west of the site. Till is described as Diamicton. Glaciofluvial Deposits are characterised by sand and gravels.

2.2.3 Bedrock Geology

BGS bedrock mapping indicated the site is underlain by Tetragraptus Beds - Mudstone of the Ordovician Period. No description has been provided by the BGS.

2.3 Pertinent Site Sensitivity Information

Based on the information collated for the desk study, the geo-environmental setting of the site is summarised as follows:

- The first edition mapping shows that the site as open fields until the late 1950s where the western section of site was occupied by Farm Institute. From 1969, the Farm Institute was no longer shown, having been replaced by a college until present day. The eastern area of the site has remained as agricultural land.
- The surrounding site area is predominantly rural with several isolated buildings from earliest mapping with a railway track present 90m west of the site. Limited development in the form of the expansion of buildings 20m south of the site was identified from 1969. A tank and filter bed were also recorded from 1969 to 1993.
- The site is underlain by superficial deposits of Till in the east and Glaciofluvial Deposits in the west. The bedrock geology of site is underlain by Tetragraptus Beds – mudstone.
- The site is not within a flood zone. There is a low risk to the site from groundwater flooding and negligible risk from surface water flooding. There is a negligible risk to the site from flooding from rivers/sea.
- Till is described as Secondary Undifferentiated Aquifer and the Glaciofluvial Deposits are designated as a Secondary A Aquifer. The bedrock geology of Tetragraptus Beds are classified as a Secondary B Aquifer.
- The eastern site area is within an area where 3% to 5% of the properties are above the action level for Radon. The western half of the site is located within an area where 1% to 3% of the properties are above the action level for Radon. Basic radon protection measures will be required for any new development on the site.
- There is a record of active or recent landfill identified as Pibwrlwyd Inert Landfill which is located 86m south of the site. There are two records of historical landfills within 250m radius of the site, the closest relates to Pibwrlwyd Farm 123m north of the site.

3. Fieldwork & Factual Information

The site work was carried out between 1st to 7th November 2022. Where applicable, the fieldwork was undertaken in accordance with BS5930:2015 + A1:2020 Code of Practice for Ground Investigations (Ref. 6) and BS10175:2011+A2:2017 Investigation of Potentially Contaminated Sites (Ref. 8).

The exploratory holes were positioned to provide general coverage across the site of proposed development to provide information for foundation design and obtain representative soil samples for geotechnical and geo-environmental analysis.

3.1 Exploratory Methods

The exploratory methods are detailed in the table below.

Table 1 – Exploratory Methods

Type	Quantity	Maximum Depth (m)	Details
Windowless Sampling Borehole	12	4.00	WS1 to WS12
Cable Percussive Borehole	4	6.60	CP01, CP01A, CP02 to CP03

The exploratory holes were logged and sampled by an Engineer from HSP Consulting Engineers Ltd and the logs are presented in Appendix III. The exploratory hole locations are shown on the Ground Investigation Layout Plan presented in Appendix IV.

Fragmentary bulk disturbed and undisturbed samples were recovered from materials revealed within all the exploratory holes. Geo-environmental samples, placed in plastic tubs and glass jars supplied by the laboratory, were also obtained specifically for chemical analysis. The samples were taken to UKAS accredited laboratories for further examination and testing.

3.2 In-situ Testing

3.2.1 Standard Penetration Tests

Standard Penetration Tests (SPTs) were carried out at 1.00m intervals in the windowless sample and cable percussive boreholes to 5.00m depth, and at 1.50m intervals thereafter in the cable percussive boreholes. The SPTs were undertaken in accordance with EN ISO 22476-2 2005: A1 2011 and the results are included on the appended borehole logs (Appendix III).

3.3 Laboratory Testing

The laboratory testing schedules were prepared by HSP Consulting Engineers Ltd.

3.3.1 Geotechnical Testing

Geotechnical testing has been scheduled to be undertaken by a UKAS accredited laboratory as part of the works at the site:

- Particle size distributions (PSD)

- Natural Moisture Contents
- Plasticity Index

The laboratory testing is being undertaken by Professional Soils Laboratory (UKAS accredited, laboratory No.4043) and Apex Testing Solutions (UKAS accredited, laboratory No. 7771) in accordance with BS1377:1990 using calibrated equipment specifically for the British Standard. The results are included within Appendix VI.

3.3.2 Chemical Analysis

The geo-environmental samples retained specifically for chemical analysis were stored in cooled containers until delivery to the laboratory by courier.

Chemical analysis was scheduled on twenty soil samples for the presence of a selected suite of potential contaminants as outlined in the tables below:

Table 2a – Chemical Analysis

Exploratory Hole Location & Depth (m)	Sample Description	Exploratory Hole Location & Depth (m)	Sample Description
WS01 0.40m	MADE GROUND ^{1, 2, 3}	WS09 0.90m	CLAY ³
WS02 0.30m	MADE GROUND ^{1, 2, 3, 4}	WS09 3.90m	MUDSTONE ³
WS02 1.70m	CLAY ³	WS10 0.10m	MADE GROUND ^{1, 2, 3, 4}
WS03 0.40m	CLAY ^{1, 2, 3}	WS10 0.60m	CLAY ^{1, 2, 3}
WS04 0.40m	CLAY ^{1, 2, 3}	WS10 2.90m	CLAY ³
WS04 1.80m	CLAY ³	WS11 0.20m	MADE GROUND ^{1, 2, 3, 4}
WS06 0.40m	CLAY ^{1, 2, 3}	WS11 0.70m	CLAY ^{1, 2, 3}
WS06 1.80m	SAND ³	WS11 1.80m	CLAY ³
WS07 0.30m	CLAY ^{1, 2, 3, 4}	WS12 0.40m	CLAY ^{1, 2, 3}
WS07 0.90m	GRAVEL ³	WS12 0.80m	CLAY ^{1, 2, 3}

¹ HSP Standard Suite, ² Organic Matter, ³ BRE Sulphate Suite, ⁴ Asbestos Identification

Table 2b – HSP Standard Chemical Analysis Suite

Metals	Cadmium	Chromium (III & VI)	Copper
	Lead	Mercury	Nickel
	Zinc	Antimony	Vanadium
Semi Metals and Non-metals	Arsenic	Boron	Selenium
Others	pH	Organic Matter	LOI
Inorganic Chemicals	Cyanide	Sulphate	Sulphide
Organic Chemicals	PAH (US EPA 16)	TPH (CWG)	Phenol

The contamination analysis was carried out by Chemtest Ltd (UKAS accredited, laboratory No. 2183) during the period 9th November to 6th December 2022. The results are presented in Appendix V.

3.4 Ground Conditions

3.4.1 Published Geology

The published geology indicates the site is underlain by Glaciofluvial deposits in the west of the site and Glacial Till in the east of the site. The site is underlain undifferentiated bedrock deposits of the Tetragraptus Beds as described in section 2.2.2 and 2.2.3 above.

3.4.2 Ground Conditions on site or General Geology & Revealed Strata

The exploratory hole data generally confirms the published information with undifferentiated deposits of the Glaciofluvial deposits and Tetraraptus Beds as being encountered in the exploratory locations. No Glacial Till deposits were encountered as the investigation was focused in the western area of site. The strata generally comprises:

Table 3 – Encountered Ground Conditions

	Strata	Depth (mbegl)	Thickness (m)	Description
Anthropogenic	MADE GROUND	G.L – 0.15	0.15	MADE GROUND comprising asphalt concrete.
		G.L – 0.50	0.50	MADE GROUND comprising grey gravel.
		0.09 – 0.50	0.41	MADE GROUND comprising dark grey black sandy gravelly silty clayey fill.
	TOPSOIL	G.L - 0.30	0.30	Grass overlying brown sandy slightly gravelly clay with occasional rootlets.
Superficial	GLACIOFLUVIAL DEPOSITS	0.15 – 3.70	3.50	Soft to firm brown/light grey/light yellowish brown mottled grey silty sandy gravelly CLAY. Occasional cobble present.
		0.50 – 2.00	1.10	Loose to medium dense light brown mottled grey slightly clayey very gravelly SAND.
		0.50 – 0.90	0.20	Dark grey to black slightly sandy GRAVEL. Gravel is mudstone.
Bedrock	TETRAGRAPTUS BEDS	0.40 – 6.50	0.60	Very weak to weak weathered dark grey/dark grey brown MUDSTONE.
		3.50 – 6.30	2.00	Stiff to very stiff brown to dark grey sandy gravelly CLAY.
		6.50 – 6.60	0.10	Dense dark grey sandy clayey GRAVEL.

3.5 Groundwater Levels

During the advancement of the window sample boreholes, groundwater was encountered at 1.00m begl in WS11. No groundwater was encountered in the cable percussive boreholes.

Groundwater monitoring has been undertaken on six occasions and groundwater has been recorded between 1.52m begl to 3.90m begl.

3.6 Ground Gas Monitoring

Dual use gas and groundwater monitoring installations were constructed within three of the boreholes at the site during ground investigation (CP02, WS09 and WS12). Each well has been constructed using 50mm diameter HDPE pipe. All of the borehole installations have a 6mm pea gravel surround to the slotted pipe with a bentonite seal above and a gas tap. The covers are cemented flush with ground level and are round lockable stopcock covers.

HSP Consulting uses a GFM 430 Gas Analyser. Prior to its use a calibration check can be performed against gas readings in air. It is recommended that this check is undertaken once on each day the analyser is used. Annual calibration is undertaken on the unit and a copy of this certificate has been included within Appendix VII.

The results of the ground gas monitoring are discussed in Section 5.5 below.

3.7 Visual and Olfactory Evidence of Contamination

Within the shallow Made Ground deposits, anthropogenic materials were recorded which comprised of concrete and ballast.

No visual and olfactory evidence of contamination was noted in the exploratory holes during the ground investigation.

4. Geotechnical Assessment

4.1 Detailed Ground Model

For the purpose of this foundation assessment the information gained from the window sample and cable percussive boreholes were utilised. The borehole logs are presented in Appendix III.

4.1.1 Made Ground

Shallow Made Ground was encountered in areas where development had occurred. These locations generally comprised asphalt concrete and/or grey gravel cover over dark grey black/grey sandy gravelly silty clayey fill to a maximum depth of 0.50m begl. The gravels were composed of ballast, sandstone, mudstone and asphalt concrete.

The base of all Made Ground deposits were penetrated.

4.1.2 Topsoil

Topsoil was encountered in areas of soft landscaping and comprised of grass overlying brown sandy slightly gravelly CLAY with occasional rootlets to a maximum depth of 0.30m begl.

4.1.3 Glaciofluvial deposits

Superficial Glaciofluvial deposits were encountered in all boreholes. A soft to firm brown/light grey/light yellowish brown mottled grey silty CLAY with variable coarse content was encountered underlying any Made Ground or topsoil and proved to a maximum depth of 3.70m begl. The gravels were composed of sandstone, mudstone, siltstone, shale and flint.

In WS06 a loose to medium dense brown SAND was encountered from 0.50m to 2.00m begl, interbedded with clayey slightly sandy mudstone gravel. A loose light brown mottled grey slightly clayey very gravelly SAND was encountered in WS07, WS08 and WS11 from 0.90m to 2.00m begl.

4.1.4 Tetragraptus Beds

Bedrock deposits of the Tetragraptus Beds were encountered below the Glaciofluvial deposits in CP01A, CP02, CP03, WS04, WS05, WS09 and WS12. The Tetragraptus beds were encountered as very weak to weak weathered dark grey MUDSTONE interbedded with stiff to very stiff brown to dark grey sandy gravelly CLAY from 0.40m begl in WS05 in the northeast and from 3.70m begl in WS09 in the south. The base of the deposits were proven to the base of the boreholes (maximum depth 6.60m begl).

4.1.5 In-situ Testing and Assessment

A series of Standard Penetration Tests (SPT's) undertaken within the boreholes have returned SPT 'N' values of 7 to 50 at 1.00m depth and 14 to 50 at 2.00m depth. The following table summarises the N values at depth across the site within the natural strata.

Table 4a – SPT N Values – Window Sampler Boreholes

Depth (m)	Range of 'N' Values	Mean 'N' Value	Description
1.00	7 – 33	16	CLAY
	50	50	MUDSTONE
2.00	14 – 43	28	CLAY
	17 - 19	18	SAND
	50	50	MUDSTONE
3.00	38 – 50	44	CLAY
	16 – 50	33	MUDSTONE
4.00	17	17	CLAY
	50	50	MUDSTONE
5.00	28	28	CLAY
6.50 – 60	50	50	MUDSTONE

Twelve plasticity index and fourteen moisture content tests have been undertaken in the laboratory on disturbed samples of the fine deposits from the window sampler and cable percussive boreholes. The results indicate compliance with the definition of soils of low to moderate plasticity (CL - CI), one sample has recorded high plasticity (CH) after the classification system of BS5930: 2015 + A1:2020. These soils are considered to be low to medium volume change potential (VCP) in accordance with the National House Building Council (NHBC) Standards, Chapter 4.2: 2007.

One Particle Size Distribution test has been undertaken to confirm the visual description and engineering behaviour of the soils. The results are presented within Appendix VI.

4.2 Earthworks

Proposed levels for the development are currently unknown, but it is considered that significant earthworks is likely to be required to create a level development platform. Any Made Ground or topsoil arisings generated on site are unlikely to be suitable as engineered fill. It is likely that natural near surface soil arisings generated on site will be suitable for use as engineered fill on site, subject to appropriate testing and assessment.

Should materials prove to be suitable, placement and compaction would need to be strictly controlled and supervised. Project programming should consider the 'earthworks window' (prevailing dry & warm climatic conditions) as the soil materials will be susceptible to softening during periods of wet weather and will be easily damaged by site traffic and deterioration at times of heavy rainfall.

4.3 Excavations

Excavations to proposed formation level for foundations and infrastructure should be feasible using standard excavation plant and equipment. Should deeper foundations or infrastructure be required a breaker may be required to achieve the required depth due to shallow competent bedrock encountered at WS04, WS05, CP02 and CP03.

Random and potentially severe falls should be anticipated from the faces of near vertically sided unsupported excavations carried out at the site. Where personnel are required to enter

near vertically sided excavations, it is considered that full support should be provided to the full depth of all excavations.

It is recommended that all support systems are continually assessed by fully trained or experienced personnel.

Groundwater was only encountered during the advancement of the boreholes at 1.00m begl in WS11. For further information, please refer to section 3.5 of this report. Should groundwater entries be encountered at the site during groundwork operations, traditional sump and pump dewatering should be sufficient. However, it should be noted that groundwater levels may vary due to seasonal variations or other effects.

4.4 Foundations

Proposed outline development options are provided within the 'Site Test to Fit' provided in Appendix II. Four options are shown which indicate the proposed three storey building configuration will be located in the north east or south east of the site.

For the purpose of this foundation assessment, the information gained from the window sample and cable percussive boreholes have been utilised and the lowest SPT 'N' value has been used to calculate the net allowable bearing pressure. Should development plans alter, an Engineer from HSP should be consulted and the foundation assessment revised.

Based on the ground conditions encountered, the general downward succession was identified as shallow Made Ground overlying varying depth of superficial Glaciofluvial deposits (proved to depths of 0.4m begl (WS05) and 3.7m begl (WS09), overlying bedrock deposits of the Tetragraptus beds comprising clay/mudstone. The topography of the site varies being at a higher elevation in the northeast, sloping down to the southwest.

All foundations will need to be taken below any topsoil and Made Ground materials as these are not considered a suitable founding stratum.

It is considered conventional strip or pad foundations could be utilised within the natural deposits designed to a net allowable bearing pressure of 125kN/m² at 1.00m begl increasing to 160kN/m² at 2.00m begl to limit total settlements to 25mm and differential settlements to acceptable limits. Localised deepening may be required where soft/loose deposits are encountered (WS08: 1.00m) and placed within competent strata.

Where fine-grained and granular deposits are encountered at the base of any footings, consideration should be given to the inclusion of mesh reinforcement at the top and bottom of foundations to reduce the potential for differential settlements to occur.

Foundations (and ground floor slabs) should be designed in accordance with NHBC Standards Chapter 4.2 Building near Trees (Ref. 9) in accordance with the requirements for soils of medium-volume change potential.

It should be noted that design loadings have not been provided at this stage. However proposed buildings shown on indicative drawings are shown to be three storey and therefore loads are likely to exceed the ABP provided above and an alternative foundation solution such as piling would need to be considered where higher loads are required. Any piling solution would need to be designed and warranted by a specialist subcontractor. It is recommended the foundation options are reviewed once the layout and loadings have been finalised.

4.5 Ground Floor Slab

At this stage it is anticipated a cut/fill exercise will be required to accommodate any new build and in conjunction with any earthworks reprofiling a ground bearing floor slab could be considered providing granular material is placed beneath the floor slab and compacted in layers in accordance with any engineered specification. Alternatively, a suspended floor slab could be utilised. Where the structures are to be located within the influencing zone of existing or future trees, they should be designed in accordance with NHBC guidance Chapter 4.2.

Basic radon protection measures will need to be incorporated in any floor slab design in accordance with BR 211, BRE 2015 (ref 23).

4.6 Concrete Classification

The results of sulphate and pH testing carried out on selected soil samples taken during this investigation have been compared with the recommendations outlined in BRE Special Digest 1, Part 1: 2005.

The guidelines given in BRE Special Digest 1 are based upon a site classification relating to its previous usage. It is considered appropriate to define this site as a 'natural ground' location with mobile groundwater for the purposes of concrete classification.

On the basis of the above, it is considered appropriate to adopt a basic Design Sulphate Class of DS-1 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-1.

4.7 Pavement Design

No testing has been undertaken at this stage. It is recommended that in-situ CBR testing should be undertaken at finished levels when proposed development plans have been finalised. However, TRL DCP probing was undertaken during the previous investigation by Quantum Geotech for the area south of the site. The testing completed in the neighbouring site returned CBR values of 1%.

4.8 Infiltration Drainage

Infiltration testing has not been undertaken as part of this investigation. The ground conditions at shallow depths have recorded predominantly fine grained deposits and therefore the use of infiltration drainage for the disposal of surface water is likely to be limited. In addition, soakaway testing in accordance with BRE 365 was completed during the previous

investigation by Quantum Geotech with results indicating soakaway drainage would not be suitable for the site.

5. Environmental Assessment

5.1 Introduction

The approach to the human health risk assessment reported here follows the principals given in the Land Contamination Risk Management (LCRM) Guidance, <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm> i.e. application of the following assessment hierarchy:

- Tier 1 risk screening by establishment of potential pollutant linkages, i.e. the preliminary conceptual site model (PCSM), or
- Tier 2 generic quantitative assessment using generic assessment criteria (GACs) that represent 'acceptably low' risk, or
- Tier 3 quantitative risk assessment using site specific assessment criteria (SSACs) that represent 'unacceptable risk', or where generic assessment criteria are not available, or they are not applicable to the CSM.

The results of laboratory analysis have been screened against GACs including the Defra Category 4 Screening Levels (C4SL) and LQM and CIEH S4ULs for Human Health Risk Assessment (Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3180. All rights reserved). (Refs 10 and 11 respectively).

In the absence of a standard scenario for an educational environment the standard exposure scenario of residential without home grown produce has been used to identify potential exposure pathways for human health receptors. Controlled water, flora and fauna and property receptors have also been included within the CSM. Our Tier 2 HHRAs for educational sites are screened against the GACs representative of minimal risk for residential without home grown produce end use, we believe this to be appropriate based on the precautionary principle the LCRM guidance advocates.

It should be noted that organic contamination (PAH, TPH and BTEX) have been screened against the GAC for 1% Soil Organic Matter (SOM).

Where possible the assessment of PAHs is undertaken using the surrogate marker approach; recommended by Health Protection Agency (2010) guidance, providing the PAH profile is sufficiently similar to the coal tars tested by Culp et al (1998). Where PAH profile is not sufficiently coal tar like the TEF method is adopted using the LQM and CIEH S4ULs. Prior to assessment a PAH profile is generated for all samples analysed for PAH using the LQM PAH Profiling Tool v1.3, the graphical output is presented in Appendix V. For this site WS02 at 0.30m begl has been analysed using the LQM PAH Profiling Tool, all the remaining samples have been screened using the TEF method due to all the remaining PAHs being below the limit of detection (LOD).

5.2 Assessment of Soil Analysis Results

Twenty samples, as detailed in section 3.3.2, were scheduled for analysis from the development area. Twelve of these samples were scheduled to provide a basis for characterising the soils to outline the potential impacts on human health and any environmental receptors from any contamination found.

The screening process for on-site human health receptors show that the GACs for a residential without home grown produce setting were not exceeded.

Four shallow soil samples were submitted for an asbestos screen and identification. No asbestos has been identified.

5.3 Human Health Mitigation

The concentrations of potential contaminants recorded at the site indicates an acceptably low risk and therefore mitigation measures are not required as part of the development.

Should any obvious evidence of unexpected contamination be encountered during the redevelopment works it should be reported to HSP so that an inspection can be made and appropriate sampling and assessment work be carried out.

Appropriate health and safety precautions should be adopted during any excavation works to avoid exposure to potentially contaminated soils and dust.

The approval of the local Environmental Health Officer should be sought with respect to the soil contamination assessment and mitigation proposals.

5.4 Protection of Controlled Waters

Given no presence of contaminants at elevated levels within the soils, it is considered unlikely that the soils on the site pose a significant risk to controlled waters.

5.5 Ground Gas Risk Assessment

Ground gas concentrations have been monitored on six occasions in order to obtain an indication of the ground gas regime at the site.

The results of monitoring indicate that methane has not been recorded above the limits of detection. Carbon dioxide has been recorded at concentrations up to 3.0% by volume in air. Steady state gas flows have not been recorded above the limits of detection. From the results above, the maximum steady state gas screening value for the site is 0.003 l/hr.

The results have been assessed in line with the guidance provided in BS8485:2015 + A1:2019 Code of Practice of the design of protective measures for methane and carbon dioxide ground gas for new buildings (Ref 14) and CIRIA Document C665 'Assessing Risks Posed by

Hazardous Ground Gases to Buildings' (Ref 15). Comparison of these results with Table 2 of BS8485:2015 + A1:2019 indicates that the site falls into a Characteristic Situation 1.

The UK radon map indicates the site is located within an area where 3% to 5% of the properties are above the action level for radon and therefore basic radon measures will be required for any new development on the site in accordance with BR 211 (ref 23).

Depleted oxygen levels were observed within a number of the boreholes during the monitoring. This poses a risk of asphyxiation to construction and maintenance workers in confined spaces such as excavations or manhole chambers. A confined spaces risk assessment should be carried out prior to working in any buried structures or excavations.

The results of the ground gas monitoring are presented in Appendix VII.

5.6 Water Supply

Environmental testing for the site should be compared to the following document in order to assess the most appropriate pipe material that should be used upon the site for mains water supply:

'Water UK Contaminated Land Assessment Guidance (January 2014)'. (Ref. 20).

Testing to the Water UK Suite is beyond the scope of the investigation and the report. However, it is noted that natural ground occurs at shallow depths and there is no historic evidence from the Desk Study, nor measured indicative organic contamination (e.g., petroleum-based hydrocarbons, phenols, etc.), that is likely to be detrimental to the use of plastic water supply pipes. The use of plastic (PE) water supply pipes is likely to be suitable if located in natural ground. However, specific targeted testing may be required by the utility provider once the development and water supply pipe route(s) have been confirmed. Water supply pipes should be placed at a minimum depth of 0.75m below the finished ground level(s) (to the top of the piping).

5.7 Waste Classification

Waste Assessment and Classification is required to be carried out as per the Environment Agency Document "Waste Classification: Guidance on the Classification and Assessment of Waste (v1.2.GB 2021) – Technical Guidance WM3" (Ref. 22).

The results of the chemical testing have been assessed using web-based software for classifying hazardous waste, HazWasteOnline™. The materials tested are likely to be classified as non-hazardous waste. The results are included in Appendix VIII.

Please note the above classification provides an indication of how the material should be classified for removal off site; however, this should be used at your approved waste handler's discretion and further testing may be required prior to any offsite disposal.

5.8 Updated Conceptual Site Model

The PCSM and Summary of plausible pollutant linkages was produced by undertaking a Source-Pathway-Receptor analysis of the site using readily available online information and previous reports. Based on the findings of this and the site investigation the updated conceptual site model has been updated and is presented in the table below.

Table 5 - Updated Conceptual Site Model.

Source	Pathway	Receptor	Consequence	Probability	Risk	Comments
On site S1: Historical and Contemporary land use: Made Ground associated with development of the site. S2: Historical land use: Orchard.	P1: Human uptake pathways	R1: End Users	Mild	Unlikely	Very Low	Concentrations of contaminants of concern are below the relevant GACs within the near surface deposits sampled across the site and therefore the risk is considered to be VERY LOW.
		R2: Construction and Maintenance workers	Mild	Unlikely	Very Low	
	P2: Horizontal and vertical migration of mobile contaminants through potentially permeable soils. P4: Migration along preferential pathways (man-made) P5: Overland flow/surface runoff	R3: Controlled Waters: Groundwater and Surface water	Mild	Unlikely	Very Low	The potential sources identified 'on-site' are limited and the ground investigation has confirmed that no exceedances have been identified above the relevant GACs. The risk to Controlled Waters is considered to be VERY LOW.
	P3: Direct Contact P4: Migration along preferential pathways (man-made) P5: Overland flow/surface runoff	R4: Property, services and substructures	Mild	Unlikely	Very Low	The natural soils may contain sulphates that present a risk to buried concrete. The Glaciofluvial deposits and Tetragraptus Beds are classified as a Design Sulphate Class of DS-1 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-1 has been recorded. The risk is considered to be VERY LOW. The risk to water supply pipes (due to lack of measured indicative organic contamination (petroleum hydrocarbons, phenols) is considered low within natural ground. Provided that the correct construction materials are used the risk remains VERY LOW.
						It is not known if areas of soft landscaping are proposed. Results returned from the soil sampling show no exceedances of generic assessment criteria and as such the risk posed from the soil can be classified as VERY LOW. Site won soils (topsoil/subsoil) may be suitable as a planting medium but would need to be compliant with BS:3882:2015 and have the appropriate testing to confirm suitability. The risk of uptake to proposed flora and fauna is considered to be VERY LOW.
Off site S3: Historical and Contemporary Land Use: Tank and Filter Beds.	P1: Human uptake pathways	R1: End Users	Mild	Unlikely	Very Low	Concentrations of contaminants of concern are below the relevant GACs within the near surface deposits sampled across the site and therefore the risk is considered to be VERY LOW.
	P2: Horizontal and vertical migration of mobile contaminants through potentially permeable soils and rocks.	R3: Controlled Waters: Surface Water, Groundwater	Mild	Unlikely	Very Low	
On and Off Site S4: Ground Gases from made ground S5: Ground Gases from historical and recent landfill	P6: Vertical and lateral migration of ground gases and/or vapour.	R1: End Users	Mild	Low	Low	Ground gas monitoring has confirmed a CS1 classification for the site as outlined in BS485:2015+A1 2019, however basic radon protection measures are required for any new build and will need to be accommodated in accordance with BR 211. Providing basic radon protective measures are adopted the risk is considered to be LOW

6. Development Constraints

Ground gas monitoring has been undertaken on four occasions. Comparison of the results with Table 2 of BS8485:2015 + A1:2019 indicates that the site falls into a Characteristic Situation 1, however the site is located within an area where 3% to 5% of the properties are above the action level for radon and therefore basic radon measures will be required for any new development.

7. References

1. HSP Consulting Engineers Limited, Coleg Sir Gar - Pibwrlwyd Campus - Phase I Geo-Environmental Desk Study Report, November 2022, Ref: HSP2022-C4103-G-GPI-1111
2. BRITISH GEOLOGICAL SURVEY. 1967. Carmarthen, Map Sheet 229. Bedrock and Superficial Deposits. 1:63 360 (Keyworth, Nottingham: British geological Survey).
3. British Geological Survey Lexicon Search - <http://www.bgs.ac.uk/lexicon/>
4. Department of the Environment Industry Profiles.
5. Site Investigation in Construction, Volume 3, Specification for Ground Investigation 2nd Edition.
6. BS 5930:2015 +A1:2020 Code of Practice for Site Investigations.
7. BS 8576:2013 Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)
8. BS10175:2011 +A2:2017 Investigation of Potentially Contaminated Sites - Code of Practice.
9. NHBC Standards, Chapter 4.2, Building near trees.
10. Department for Environment, Food and Rural Affairs and Contaminated Land: Applications in Real Environments (CL:AIRE) (December 2013). SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination.
11. Nathanail, C.P., McCaffrey, C., Gillett, A.G., Ogden, R.C. and Nathanail, J.F. 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, Nottingham.
12. BRE Special Digest 1:Concrete in Aggressive Ground, 2005, Building Research Establishment.
13. CL:AIRE The definition of Waste: Development Industry Code of Practice, 2008.
14. BS8485:2015 + A1:2019 Code of Practice of the design of protective measures for methane and carbon dioxide ground gas for new buildings
15. CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'
16. Department for Environment, Food and Rural Affairs and Contaminated Land: Applications in Real Environments (CL:AIRE) (December 2013). SP1010: Appendix E Provisional C4SLs for Benzo(a)pyrene as a surrogate marker for PAHs.
17. www.environment-agency.gov.uk
18. HMSO, Water Supply (Water Quality) Regulations, 2002
19. www.hazwasteonline.com/
20. Water UK Contaminated Land Assessment Guidance, 2014
21. Driscoll, R. The influence of vegetation on the swelling and shrinking of clay soils in Britain, Geotechnique, Vol. 33, pp 93 – 105
22. Waste Classification: Guidance on the Classification and Assessment of Waste (v1.2.GB 2021) – Technical Guidance WM3
23. BR 211, BRE 2015 Radon 'Guidance on protective measures for new buildings'

Appendix I



DO NOT SCALE
NOTES:



- Red Line Boundary



Lawrence House, Meadowbank Way,
Eastwood, Nottingham, NG16 3SB
Tel: 01773 535 555 Fax: 0870 600 6091

www.hspconsulting.com

CLIENT:

Gleeds Management Ltd

PROJECT:

Coleg Sir Gar – Pibwrlwyd
Campus

TITLE:

Site Location Plan

SCALE@SIZE :

NTS

ISSUE:

FINAL

DESIGN/DRAWN:

NS

DATE:

OCT 2022

PROJECT No:

C4103

DRAWING No:

502

© HSP Consulting Engineer Ltd
© Crown Copyright.

Appendix II



Scale 1:1000 @A1

Key:

- Road leading to the entrance of the proposed building and car park
- Main entrance and drop off point
- Drop off point for servicing
- Proposed games courts location
- Proposed building
- Opportunity for future expansion
- Proposed car park location with approx. 128 spaces
- Pedestrian Access
- Vehicle Access
- Potential pedestrian access
- Potential temporary car park



Scale 1:1000 @A1

Key:

-  Proposed building
-  Opportunity for future expansion
-  Potential temporary car park
-  Proposed car park location with approx. 128 spaces
-  Proposed games courts location

Site Weaknesses:

- Significant level changes within the topography.
- The topography of the site needs to be considered and retaining walls will potentially be introduced.

Site Strengths:

- More connected with the southern part of the campus due to proximity.
- Better access from the main road - Pibwrlwyd Lane.
- Close proximity to the potential temporary car park.
- Establishes a better relationship with the campus.



Scale 1:1000 @A1

Key:

- Proposed building
- Opportunity for future expansion
- Potential temporary car park
- Proposed car park location with approx. 128 spaces
- Proposed games courts location

Site Weaknesses:

- The area is far from the southern part of the campus.
- There is no connection between the northern and southern part of the campus.
- Little opportunity for the overall campus hub.
- Does not relate to anything.
- The games courts are dislocated from the main campus.

Site Strengths:

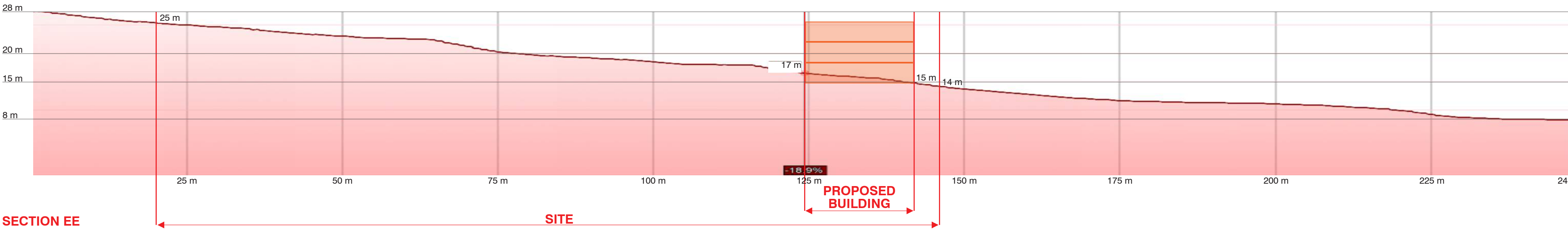
- The flattest area of the site.
- Phasing demolition strategy.



Scale 1:1000 @A1

Key:

- Proposed building
- Opportunity for future expansion
- Potential temporary car park
- Proposed car park location with approx. 128 spaces
- Proposed games courts location
- If the building was to be moved as far as possible to the western part of the area
- Potential early demolishing of the building
- Extension of the existing car park
- Connection between the South and North part of the campus



Site Weaknesses:

- Significant level changes within the topography.
- The topography of the site needs to be considered and retaining walls will potentially be introduced.

Site Strengths:

- More connected with the southern part of the campus due to proximity.
- Better access from the main road - Pibwriwyd Lane.
- Close proximity to the potential temporary car park.
- Establishes a better relationship with the campus.
- Linear building following the contours of the site requires less excavation into the hill.

Appendix III

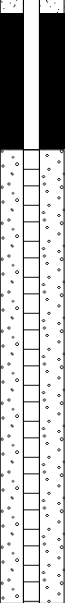
				Borehole Log			Borehole No. CP01 Sheet 1 of 1		
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241169.79 - 218254.74		Hole Type CP	
Location: Pibwrlwyd Lane, Carmarthen				Level: 15.91		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By LAB			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.15	15.76		MADE GROUND - Grey gravel. Gravel is sub angular of limestone and ballast. Soft light brown slightly silty slightly sandy gravelly CLAY with occasional cobble content. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone and siltstone. Cobbles are sub angular of mudstone (Possible reworked). End of borehole at 0.40 m	1
					0.40	15.51			
									2
									3
									4
									5
									6
									7
									8
									9
									10
Remarks 1. No groundwater was encountered during the drilling process. 2. Borehole was terminated at 0.40m depth due to a service pipe being encountered. 3. Borehole was backfilled with arisings.									

h s p consulting				Borehole Log				Borehole No. CP01A Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241169.75 - 218255.13		Hole Type CP	
Location: Pibwrlwyd Lane, Carmarthen				Level: 15.93		Scale 1:50		Logged By LAB	
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 04/11/2022					
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 1.00	T		0.30	15.63		MADE GROUND - Grey gravel. Gravel is sub angular of limestone and ballast.	1
		1.20		N=14 (2,2/3,4,4,3)	1.20	14.73		Soft to firm brown sandy gravelly CLAY with occasional cobble content. Sand is fine to medium. Gravel is fine to coarse angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
					1.50	14.43		Soft to firm brown to dark grey slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is fine to medium sub angular to angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		2.00		N=25 (4,5/6,6,6,7)				Soft to firm brown to dark grey slightly gravelly sandy CLAY with occasional cobbles. Sand is fine to medium. Gravel is fine to medium angular to sub angular of mudstone. Cobbles are fine to medium angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		2.50	T						
		3.00		N=16 (5,4/4,4,4,4)	3.00	12.93		Very weak weathered dark grey brown MUDSTONE. Recovered as a gravel. Gravel is fine to medium angular to sub angular of mudstone. (TETRAGRAPTUS BEDS)	
		3.50	T		3.50	12.43		Stiff brown to dark grey gravelly very sandy CLAY. Sand is fine to medium. Gravel is fine to coarse angular to sub angular of mudstone. (TETRAGRAPTUS BEDS)	
		4.00		N=17 (3,6/4,5,4,4)					
		5.00		N=28 (3,9/6,6,6,10)				...becoming more dark grey in colour and gravelly from 5.00m depth.	
					5.50	10.43		Stiff to very stiff brown to dark grey very sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular to sub angular of mudstone. (TETRAGRAPTUS BEDS)	
		6.30 - 6.50	B		6.30	9.63		Dense dark grey brown very clayey very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse angular to sub angular of mudstone and siltstone. (TETRAGRAPTUS BEDS)	7
		6.50		50 (25 for 75mm/50 for 0mm)	6.50	9.43		Weak weathered dark grey MUDSTONE. (TETRAGRAPTUS BEDS)	
		6.60		50 (25 for 60mm/50 for 10mm)	6.60	9.33		End of borehole at 6.60 m	
									8
									9
									10

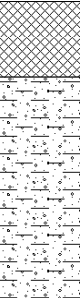
Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 6.60m depth due to refusal and backfilled with arisings.

				Borehole Log			Borehole No. CP02 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241210.39 - 218291.70		Hole Type CP
Location: Pibwrlwyd Lane, Carmarthen				Level: 20.11		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 04/11/2022 - 04/11/2022		Logged By LAB		

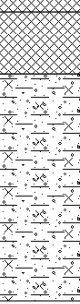
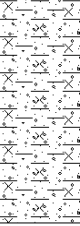
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.10	20.01		MADE GROUND - Asphalt concrete.	
								MADE GROUND - Grey gravel. Gravel is sub angular of limestone and ballast.	
		0.50 - 1.00	T		0.50	19.61		Firm brown orange grey sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		1.20		N=11 (1,2/3,3,3,3)	1.00	19.11		Firm brown grey very sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		1.50	T		1.50	18.61		Firm brown orange grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		2.00		N=14 (2,2/3,3,4,4)	2.60	17.51		Very weak weathered dark grey MUDSTONE. (TETRAGRAPTUS BEDS)	
		3.00		50 (7,10/50 for 185mm)	3.00	17.11		Very weak weathered dark grey MUDSTONE. Recovered as a slightly gravelly sandy clay. Sand is fine to coarse. Gravel is medium angular to sub angular of mudstone and siltstone. (TETRAGRAPTUS BEDS)	
		3.50	T		3.50	16.61		Weak weathered dark grey MUDSTONE. (TETRAGRAPTUS BEDS)	
		3.80		50 (25 for 95mm/50 for 75mm)	4.00	16.11		End of borehole at 4.00 m	
		4.00		50 (25 for 75mm/50 for 45mm)					

Remarks 1. No groundwater was encountered during the drilling process. 2. Borehole was terminated at 4.00m depth due to refusal. 3. Gas and water monitoring standpipe installed to 4.00m depth.		
---	--	---

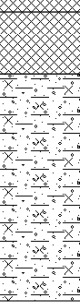
				Borehole Log				Borehole No. CP03 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241236.48 - 218256.99		Hole Type CP	
Location: Pibwrlwyd Lane, Carmarthen				Level: 14.54		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 07/11/2022 - 07/11/2022		Logged By LAB			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50 - 1.00	B		0.50	14.04		MADE GROUND - Grey gravel. Gravel is sub angular of limestone and ballast.	1 2 3 4 5 6 7 8 9 10
		1.20		N=33 (4,5/7,7,9,10)				Soft to firm brown grey very sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		1.50	D						
		2.00		50 (25 for 100mm/50 for 40mm)	2.00	12.54		Weak weathered dark grey MUDSTONE. (TETRAGRAPTUS BEDS)	
		2.10		50 (25 for 30mm/50 for 35mm)	2.10	12.44		End of borehole at 2.10 m	
Remarks 1. No groundwater was encountered during the drilling process. 2. Borehole was terminated at 2.10m depth due to refusal and backfilled with arisings.									



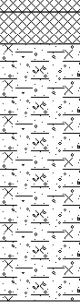
				Borehole Log				Borehole No. WS01 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241211.34 - 218300.01		Hole Type WS	
Location: Pibwrlwyd Lane, Carmarthen				Level: 20.93		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 02/11/2022 - 02/11/2022		Logged By DRS			

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.09			0.09	20.84		MADE GROUND - Asphalt concrete.	1	
		0.40	TJ		0.50	20.43		MADE GROUND - Black slightly sandy gravel . Sand is fine to medium. Gravel are sub angular of limestone and ballast.		
		0.80	T							Soft to firm light brown mottled yellowish brown slightly silty sandy gravelly CLAY with occasional cobble content. Sand is fine to coarse. Gravel and cobbles are fine to coarse sub angular to angular of mudstone, sandstone and siltstone. (GLACIOFLUVIAL DEPOSITS)
		1.00		N=20 (3,4/4,5,6,5)						
		1.20	TJ							
		1.70	T							
	2.00		N=18 (4,4/4,4,4,6)	2.00	18.93		...becoming less gravelly and cobbly from 1.60m depth.	2		
							End of borehole at 2.00 m	3		
								4		
								5		
								6		
								7		
								8		
								9		
								10		

Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.		
---	--	---

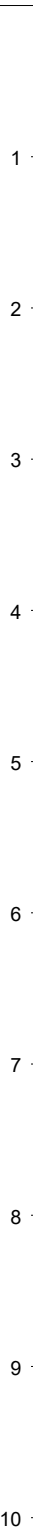
				Borehole Log				Borehole No. WS02 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241192.42 - 218305.92		Hole Type WS	
Location: Pibwrlwyd Lane, Carmarthen				Level: 21.41		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.09			0.09	21.32		MADE GROUND - Asphalt concrete. MADE GROUND - Dark grey black sandy gravelly silty clayey fill. Sand is fine to medium. Gravel is sub angular to angular of mudstone and sandstone, asphalt concrete. Soft to firm light yellowish brown silty sandy gravelly CLAY with occasional cobbles. Sand is fine to medium. Gravel is fine to medium sub angular of mudstone, sandstone and siltstone. Cobbles are sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	1
	0.30	TJ			0.50	20.91			
	0.70	T							
	1.00		N=21 (3,4/4,4,7,6)						
	1.70	T							
		2.00		N=24 (15,10/6,6,7,5)	2.00	19.41		End of borehole at 2.00 m	2
									3
									4
									5
									6
									7
									8
									9
									10
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.									

				Borehole Log			Borehole No. WS03 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241170.58 - 218290.45		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 19.30		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.09			0.09	19.21		MADE GROUND - Asphalt concrete. MADE GROUND - grey sandy gravelly silty clayey fill. Sand is fine to medium. Gravel is sub angular to angular of mudstone and sandstone, asphalt concrete. Soft to firm light yellowish brown silty sandy gravelly CLAY with occasional cobbles. Sand is fine to medium. Gravel is fine to medium sub angular of mudstone, sandstone and siltstone. Cobbles are sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
		0.30			0.30	19.00			
	0.40	TJ							
	0.60	T							
	1.00		N=15 (2,3/3,4,4,4)						
		1.70	T						
		2.00		N=16 (3,3/3,3,5,5)	2.00	17.30			
End of borehole at 2.00 m									

Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.		
---	--	---

				Borehole Log				Borehole No. WS04 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241201.64 - 218324.02		Hole Type WS	
Location: Pibwrlwyd Lane, Carmarthen				Level: 23.77		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS			

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.12			0.12	23.65		MADE GROUND - Asphalt concrete. MADE GROUND - Dark grey black sandy gravelly silty clayey fill. Sand is fine to medium. Gravel is sub angular to angular of mudstone and sandstone, asphalt concrete.	
		0.20			0.20	23.57			
	0.40	T							
	1.00								
		1.10	T	N=24 (7,4/5,6,7,6)	1.20	22.57		Soft to firm light brown mottled yellowish grey slightly silty sandy gravelly CLAY with occasional cobble content. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone and siltstone. Cobbles are sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	1
	1.80	T		1.60	22.17				
2.00		50 (8,12/50 for 220mm)	2.00	21.77					
								Soft light brown mottled grey very sandy very gravelly silty CLAY. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone and siltstone. (GLACIOFLUVIAL DEPOSITS) Extremely weak dark reddish brown grey MUDSTONE. Recovered as a gravelly clay. Gravel is sub angular of mudstone. (TETRAGRAPTUS BEDS)	2
								End of borehole at 2.00 m	3
									4
									5
									6
									7
									8
									9
									10

Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.		
---	--	---

				Borehole Log			Borehole No. WS05 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241173.47 - 218352.84		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 23.99		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS		

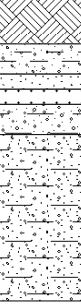
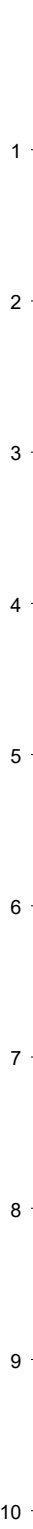
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	TJ		0.15	23.84	 Grass overlying brown sandy slightly gravelly CLAY with occasional rootlets. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone. (TOPSOIL)  Soft light brown mottled grey very sandy very gravelly silty CLAY. Sand is fine to medium. Gravel is sub angular of mudstone, sandstone and siltstone. (GLACIOFLUVIAL DEPOSITS)  Extremely weak dark reddish brown grey MUDSTONE. Recovered as a gravelly clay. Gravel is sub angular of mudstone. (TETRAGRAPTUS BEDS) End of borehole at 1.00 m		
		0.40			23.59				
	0.60	T							
	0.90	T							
		1.00		50 (25 for 95mm/50 for 150mm)	1.00	22.99			

Remarks

- No groundwater was encountered during the drilling works.
- Borehole was terminated 1.00m depth due to refusal and backfilled with arisings.

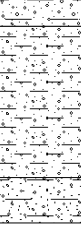


				Borehole Log				Borehole No. WS06 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241141.94 - 218330.88		Hole Type WS	
Location: Pibwrlwyd Lane, Carmarthen				Level: 22.87		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS			

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.40	TJ	N=14 (3,2/3,3,3,5)	0.30	22.57		Grass overlying brown sandy slightly gravelly CLAY with occasional rootlets. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone. (TOPSOIL) Soft brown slightly sandy slightly gravelly CLAY with occasional cobble content. Sand is fine to coarse. Gravel is fine to medium sub angular of mudstone, sandstone and siltstone. Cobbles are coarse sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS) Loose yellowish brown SAND. Sand is fine to medium. (GLACIOFLUVIAL DEPOSITS) Extremely weak weathered cream to light grey SANDSTONE. (GLACIOFLUVIAL DEPOSITS) Dark grey to black slightly clayey slightly sandy GRAVEL. Sand is fine to medium. Gravel is sub angular to angular of mudstone. (GLACIOFLUVIAL DEPOSITS) Loose light brown mottled grey slightly clayey very gravelly SAND. Sand is fine to medium. Gravel is sub angular of mudstone, sandstone, shale and flint. (GLACIOFLUVIAL DEPOSITS) End of borehole at 2.00 m	
		0.55	T		0.50	22.37			
		0.60	22.27						
		0.70	22.17						
		0.80	T		0.60	22.27			
		1.00		0.70	22.17				
		1.40	T	0.90	21.97				
		1.90	T	N=17 (3,4/3,4,4,6)	2.00	20.87			
		2.00							

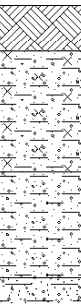
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.		
---	--	---

				Borehole Log			Borehole No. WS07 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241076.92 - 218336.11		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 21.38		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 03/11/2022 - 03/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.30	TJ		0.25	21.13		Grass overlying brown sandy slightly gravelly CLAY with occasional rootlets. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone. (TOPSOIL)		
		0.50	T		0.50	20.88				
		0.90	TJ		0.70	20.68				
		1.00		N=16 (2,3/4,3,3,6)						
		1.70 - 2.00	B		1.70	19.68				
		2.00		N=16 (3,4/3,4,4,5)	2.00	19.38			Dark grey to black slightly clayey slightly sandy GRAVEL. Sand is fine to medium. Gravel is sub angular to angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	1
									Soft light brown mottled grey slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	2
									Loose light brown mottled grey slightly clayey very gravelly SAND. Sand is fine to medium. Gravel is sub angular of mudstone, sandstone, shale and flint. (GLACIOFLUVIAL DEPOSITS)	3
								End of borehole at 2.00 m		4
									5	
									6	
									7	
									8	
									9	
									10	

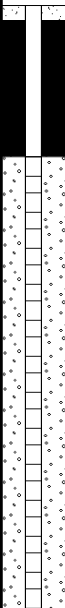
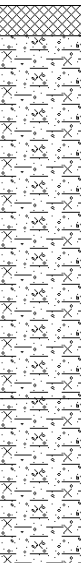
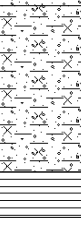
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.		
---	--	---

					Borehole Log			Borehole No. WS08 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus					Project No. C4103		Co-ords: 241067.51 - 218335.00		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen					Level: 20.76		Scale 1:50		
Client: Gleeds Management Services Ltd					Dates: 03/11/2022 - 03/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	20.46		Grass overlying brown sandy slightly gravelly CLAY with occasional rootlets. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone. (TOPSOIL)	
		1.00		N=7 (5,2/1,2,2,2)	1.10	19.66		Soft brown slightly sandy slightly gravelly CLAY with occasional cobble content. Sand is fine to coarse. Gravel is fine to medium sub angular of mudstone, sandstone and siltstone. Cobbles are coarse sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	1
		1.80 - 2.00	B		1.80	18.96		Soft light brown mottled grey slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	2
		2.00		N=19 (3,4/3,6,6,4)	2.00	18.76		Loose light brown mottled grey slightly clayey very gravelly SAND. Sand is fine to medium. Gravel is sub angular of mudstone, sandstone, shale and flint. (GLACIOFLUVIAL DEPOSITS)	3
								End of borehole at 2.00 m	4
									5
									6
									7
									8
									9
									10

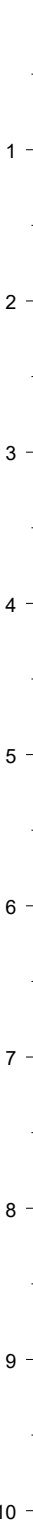
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.00m depth and backfilled with arisings.								
---	--	--	--	--	--	--	--	---

				Borehole Log			Borehole No. WS09 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241168.34 - 218256.80		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 15.89		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 01/11/2022 - 01/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.30	TJ		0.20	15.68		MADE GROUND - Black slightly sandy gravel with occasional cobble content. Sand is fine to medium. Gravel and cobbles are sub angular of limestone and ballast. Soft to firm light brown mottled yellowish sandy gravelly silty CLAY. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone, flint and shale. (GLACIOFLUVIAL DEPOSITS)	1	
		0.90	TJ	N=23 (7,4/4,7,6,6)						
		1.00								
		1.20	T							
		2.00		N=25 (7,7/6,7,6,6)					2	
		2.70	T		2.60	13.28		Firm light brown mottled yellow grey slightly sandy slightly gravelly silty CLAY with occasional cobble contents. Sand is fine to medium. Gravel and cobbles are fine to coarse sub angular of mudstone and sandstone. (GLACIOFLUVIAL DEPOSITS)	3	
		3.00		N=38 (11,10/9,8,10,11)						
		3.20	T							
		3.90	T		3.70	12.18		Weak weathered dark grey MUDSTONE. Recovered as a gravel. Gavel is fine to coarse sub angular of mudstone and sandstone. (TETRAGRAPTUS BEDS)	4	
		4.00		50 (25 for 95mm/50 for 60mm)	4.00	11.88		End of borehole at 4.00 m		
									5	
									6	
									7	
									8	
									9	
									10	

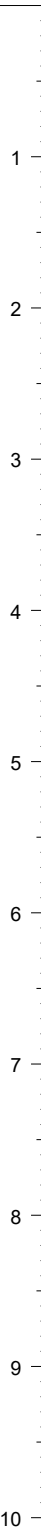
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 4.00m depth due to refusal. 3. Gas and water monitoring standpipe installed to 4.00m depth.		
--	--	---

				Borehole Log			Borehole No. WS10 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241168.37 - 218261.70		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 15.96		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 02/11/2022 - 02/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	TJ	N=15 (4,5/4,4,3,4)	0.15	15.81		MADE GROUND - Grey gravel. Gravel is sub angular of limestone and ballast. Soft light brown slightly silty slightly sandy gravelly CLAY with occasional cobble content. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone, sandstone and siltstone. Cobbles are sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS) Firm light brown mottled yellowish brown silty very sandy very gravelly CLAY with occasional cobble content. Sand is fine to medium. Gravel is sub angular to angular of mudstone, sandstone, siltstone, flint and shale. Cobbles are sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS) ...becoming more gravelly and grey in colour between 2.60m to 2.70m depth.	
		0.60	TJ		0.80	15.16			
		1.00							
		1.20	TJ						
		1.70	T						
		2.00		N=37 (4,4/7,9,10,11)					
		2.90	T	50 (25 for 15mm/50 for 50mm)	2.90	13.06			
		2.90							
		End of borehole at 2.90 m							

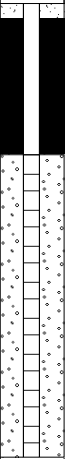
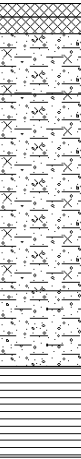
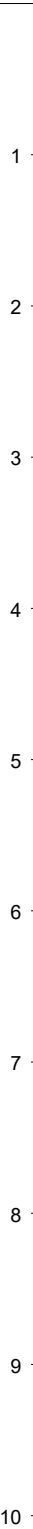
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 2.90m depth due to refusal and backfilled with arisings.		
--	--	---

				Borehole Log				Borehole No. WS11 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241242.60 - 218257.59		Hole Type WS	
Location: Pibwrlwyd Lane, Carmarthen				Level: 14.54		Scale 1:50			
Client: Gleeds Management Services Ltd				Dates: 02/11/2022 - 02/11/2022		Logged By DRS			

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.20	TJ	N=16 (15,5/3,4,5,4)	0.15	14.39		MADE GROUND - Asphalt concrete.		
		0.50	T		0.40	14.14		MADE GROUND - Dark grey black sandy gravelly silty clayey fill. Sand is fine to medium. Gravel is sub angular to angular of mudstone and sandstone, asphalt concrete.		
		0.70	TJ		0.90	13.64		Soft light brown very sandy very gravelly slightly silty CLAY with occasional cobble content. Sand is fine to medium. Gravel is fine to coarse sub angular of mudstone and sandstone. Cobble is coarse sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)		
		1.00	B		1.60	12.94		Loose to medium dense brown SAND. Sand is fine to coarse. (GLACIOFLUVIAL DEPOSITS)		
		1.00 - 1.40		N=43 (12,7/6,9,12,16)						1.80
		1.80	T	End of borehole at 1.80 m						
		1.80								

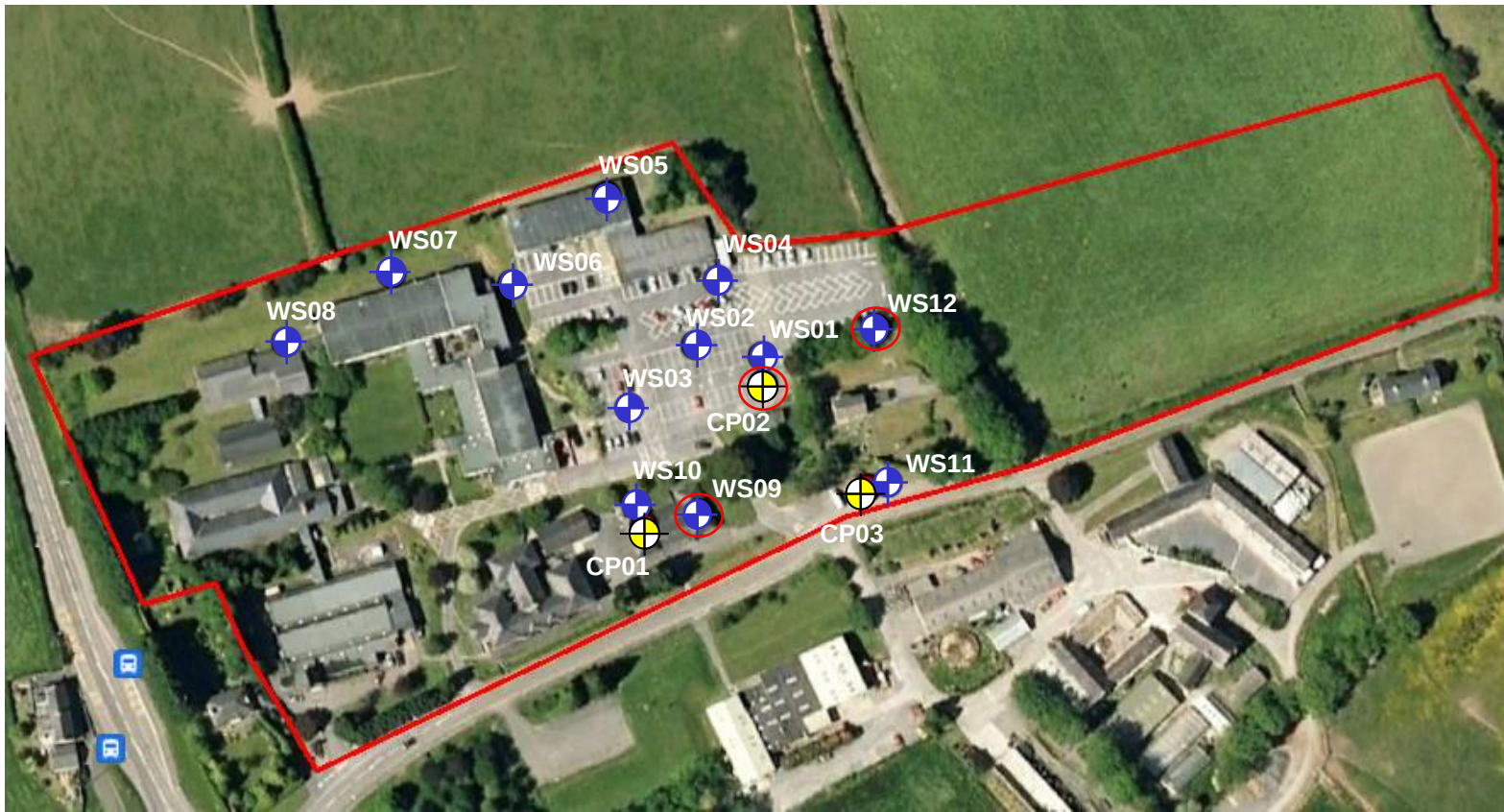
Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 1.80m depth due to obstruction and backfilled with arisings.		
--	--	---

				Borehole Log			Borehole No. WS12 Sheet 1 of 1	
Project Name: Coleg Sir Gar Pibwrlwyd Campus				Project No. C4103		Co-ords: 241234.19 - 218307.81		Hole Type WS
Location: Pibwrlwyd Lane, Carmarthen				Level: 21.72		Scale 1:50		
Client: Gleeds Management Services Ltd				Dates: 02/11/2022 - 02/11/2022		Logged By DRS		

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.09			0.09	21.63		MADE GROUND - Asphalt concrete.	
		0.20			0.20	21.52		MADE GROUND - Black slightly sandy gravel . Sand is fine to medium. Gravel are sub angular of limestone and ballast.	
	0.40	TJ		0.60	21.12	Soft to firm dark brown grey slightly silty slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub angular of mudstone, sandstone and siltstone. (GLACIOFLUVIAL DEPOSITS)			
	0.80	TJ						Soft to firm light brown mottled yellowish grey slightly silty sandy gravelly CLAY with occasional cobble content. Sand is fine to coarse. Gravel and cobbles are fine to coarse sub angular to angular of mudstone, sandstone and siltstone. (GLACIOFLUVIAL DEPOSITS)	
	1.00		N=10 (1,2/2,2,2,4)					Soft light grey slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is sub angular of mudstone. (GLACIOFLUVIAL DEPOSITS)	
	1.30	T		1.90	19.82	Extremely weak dark reddish brown grey MUDSTONE. Recovered as a gravelly clay. Gravel is sub angular of mudstone. (TETRAGRAPTUS BEDS)			
	2.00		N=32 (6,6/6,6,8,12)	2.40	19.32				
	2.20	T		3.00	18.72				
	2.80	T							
	3.00		50 (25 for 115mm/50 for 160mm)						
End of borehole at 3.00 m									

Remarks 1. No groundwater was encountered during the drilling works. 2. Borehole was terminated 3.00m depth due to refusal. 3. Gas and water monitoring standpipe installed to 3.00m depth.		
--	--	---

Appendix IV



DO NOT SCALE

NOTES:



 - Site Boundary

 - Cable Percussive Borehole

 - Window Sampling Borehole

 - Monitoring Well



Lawrence House, Meadowbank Way,
Eastwood, Nottingham, NG16 3SB
Tel: 01773 535 555 Fax: 0870 600 6091
www.hspconsulting.com

CLIENT:
Gleeds Management Ltd

PROJECT:
Coleg Sir Gar – Pibwrlwyd Campus

TITLE:
Site Investigation Layout Plan

SCALE@SIZE :	ISSUE:
NTS	FINAL
DESIGN/DRAWN:	DATE:
NS	FEB 2023
PROJECT No:	DRAWING No:
C4103	502

© HSP Consulting Engineer Ltd
© Crown Copyright.

Appendix V



2183

Final Report

Report No.: 22-43062-1
Initial Date of Issue: 06-Dec-2022
Client HSP Consulting Engineers Limited
Client Address: Lawrence House
Meadowbank Way
Eastwood
Nottinghamshire
NG16 3SB
Contact(s): Norezrin Shafii
Project C4103 Coleg Sir Gar - Pibrwylwyd Campus

Quotation No.:	Date Received:	09-Nov-2022
Order No.:	Date Instructed:	09-Nov-2022
No. of Samples: 14		
Turnaround (Wkdays): 10	Results Due:	22-Nov-2022
Date Approved: 06-Dec-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Soil

Project: C4103 Coleg Sir Gar - Pibrwllwyd Campus

Client: HSP Consulting Engineers Limited	Chemtest Job No.:				22-43062	22-43062	22-43062	22-43062	22-43062	22-43062	22-43062	22-43062
Quotation No.:	Chemtest Sample ID.:				1542116	1542118	1542119	1542120	1542122	1542123	1542124	1542126
	Sample Location:				WS01	WS02	WS03	WS04	WS06	WS07	WS07	WS09
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.40	0.30	0.40	0.40	0.40	0.30	0.90	0.90
	Date Sampled:				02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022
	Asbestos Lab:					DURHAM				DURHAM		
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A		-				-		
Asbestos Identification	U	2192		N/A		No Asbestos Detected				No Asbestos Detected		
Moisture	N	2030	%	0.020	18	3.8	14	18	17	15	13	13
Chromatogram (TPH)	N			N/A	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached		
pH	U	2010		4.0	8.1	9.2	8.1	7.8	7.8	8.4	8.3	6.9
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40	< 0.40	< 0.40	0.46	0.49	< 0.40		
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Sulphur	U	2175	%	0.010	0.021	0.049	0.026	0.052	0.048	0.047		
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	1.6	2.8	1.1	1.2	1.0	1.1		
Sulphate (Total)	U	2430	mg/kg	100	< 100	850	290	880	200	820		
Arsenic	U	2455	mg/kg	0.5	3.5	3.5	8.1	4.7	2.1	7.3		
Cadmium	U	2455	mg/kg	0.10	< 0.10	0.16	< 0.10	0.10	< 0.10	0.11		
Chromium	U	2455	mg/kg	0.5	8.4	2.9	17	9.2	3.6	12		
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		
Copper	U	2455	mg/kg	0.50	8.8	5.4	16	7.1	3.1	9.8		
Mercury	U	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Nickel	U	2455	mg/kg	0.50	7.2	3.5	16	6.8	2.7	8.4		
Lead	U	2455	mg/kg	0.50	4.8	8.7	10	15	6.5	22		
Selenium	U	2455	mg/kg	0.25	< 0.25	< 0.25	0.39	0.34	< 0.25	0.43		
Vanadium	U	2455	mg/kg	0.5	6.7	2.8	12	11	4.2	14		
Zinc	U	2455	mg/kg	0.50	18	8.7	36	28	13	43		
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		
LOI	U	2610	%	0.10	4.4	1.0	4.2	9.1	6.8	7.8		
Organic Matter	U	2625	%	0.40	1.7	3.8	0.74	5.6	7.7	4.7		
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		

Results - Soil

Project: C4103 Coleg Sir Gar - Pibrwlyd Campus

Client: HSP Consulting Engineers Limited	Chemtest Job No.:				22-43062	22-43062	22-43062	22-43062	22-43062	22-43062	22-43062	22-43062
Quotation No.:	Chemtest Sample ID.:				1542116	1542118	1542119	1542120	1542122	1542123	1542124	1542126
	Sample Location:				WS01	WS02	WS03	WS04	WS06	WS07	WS07	WS09
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.40	0.30	0.40	0.40	0.40	0.30	0.90	0.90
	Date Sampled:				02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022
	Asbestos Lab:					DURHAM				DURHAM		
Determinand	Accred.	SOP	Units	LOD								
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	< 10	< 10	< 10		
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Naphthalene	U	2800	mg/kg	0.10	< 0.10	0.19	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10		
Acenaphthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluorene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Phenanthrene	U	2800	mg/kg	0.10	< 0.10	0.16	< 0.10	< 0.10	< 0.10	< 0.10		
Anthracene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Fluoranthene	U	2800	mg/kg	0.10	< 0.10	0.41	< 0.10	< 0.10	< 0.10	0.13		
Pyrene	U	2800	mg/kg	0.10	< 0.10	0.34	< 0.10	< 0.10	< 0.10	0.13		
Benzo[a]anthracene	U	2800	mg/kg	0.10	< 0.10	0.21	< 0.10	< 0.10	< 0.10	< 0.10		
Chrysene	U	2800	mg/kg	0.10	< 0.10	0.21	< 0.10	< 0.10	< 0.10	< 0.10		
Benzo[b]fluoranthene	U	2800	mg/kg	0.10	< 0.10	0.23	< 0.10	< 0.10	< 0.10	< 0.10		
Benzo[k]fluoranthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Benzo[a]pyrene	U	2800	mg/kg	0.10	< 0.10	0.28	< 0.10	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-c,d)Pyrene	U	2800	mg/kg	0.10	< 0.10	0.20	< 0.10	< 0.10	< 0.10	< 0.10		
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		
Benzo[g,h,i]perylene	U	2800	mg/kg	0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10	< 0.10		
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	2.5	< 2.0	< 2.0	< 2.0	< 2.0		
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		

Results - Soil

Project: C4103 Coleg Sir Gar - Pibrwllwyd Campus

Client: HSP Consulting Engineers Limited	Chemtest Job No.:					22-43062	22-43062	22-43062	22-43062	22-43062	22-43062
Quotation No.:	Chemtest Sample ID.:					1542127	1542128	1542130	1542131	1542132	1542133
	Sample Location:					WS10	WS10	WS11	WS11	WS12	WS12
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.10	0.60	0.20	0.70	0.40	0.80
	Date Sampled:					02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022
	Asbestos Lab:					DURHAM		DURHAM			
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-			-			
Asbestos Identification	U	2192		N/A	No Asbestos Detected			No Asbestos Detected			
Moisture	N	2030	%	0.020	6.9	11	19	10	18	17	
Chromatogram (TPH)	N			N/A	See Attached	See Attached	See Attached	See Attached	See Attached	See Attached	
pH	U	2010		4.0	8.9	8.1	8.0	8.1	7.7	8.1	
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	
Total Sulphur	U	2175	%	0.010	0.050	0.025	0.48	0.013	0.037	0.020	
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	8.2	1.0	1.1	2.1	0.80	4.9	
Sulphate (Total)	U	2430	mg/kg	100	1400	360	20000	210	23000	22000	
Arsenic	U	2455	mg/kg	0.5	2.5	5.3	2.8	5.7	2.8	2.3	
Cadmium	U	2455	mg/kg	0.10	0.13	< 0.10	0.18	< 0.10	< 0.10	< 0.10	
Chromium	U	2455	mg/kg	0.5	2.8	8.5	4.1	11	20	16	
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
Copper	U	2455	mg/kg	0.50	2.8	12	7.1	14	9.4	7.6	
Mercury	U	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel	U	2455	mg/kg	0.50	3.7	9.6	6.3	11	18	14	
Lead	U	2455	mg/kg	0.50	7.4	10	87	6.8	6.6	5.1	
Selenium	U	2455	mg/kg	0.25	0.38	0.55	0.35	0.37	0.68	0.55	
Vanadium	U	2455	mg/kg	0.5	3.8	7.2	4.2	8.4	20	17	
Zinc	U	2455	mg/kg	0.50	7.8	30	22	28	29	24	
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
LOI	U	2610	%	0.10	0.60	3.8	12	3.5	5.0	3.8	
Organic Matter	U	2625	%	0.40	11	0.54	86	0.42	2.8	1.1	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Results - Soil

Project: C4103 Coleg Sir Gar - Pibrwlyd Campus

Client: HSP Consulting Engineers Limited	Chemtest Job No.:				22-43062	22-43062	22-43062	22-43062	22-43062	22-43062
Quotation No.:	Chemtest Sample ID.:				1542127	1542128	1542130	1542131	1542132	1542133
	Sample Location:				WS10	WS10	WS11	WS11	WS12	WS12
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.60	0.20	0.70	0.40	0.80
	Date Sampled:				02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022	02-Nov-2022
	Asbestos Lab:				DURHAM		DURHAM			
Determinand	Accred.	SOP	Units	LOD						
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	13	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	200	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	210	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	210	< 10	< 10	< 10
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

TPH Chromatogram on Soil Sample: 1542116

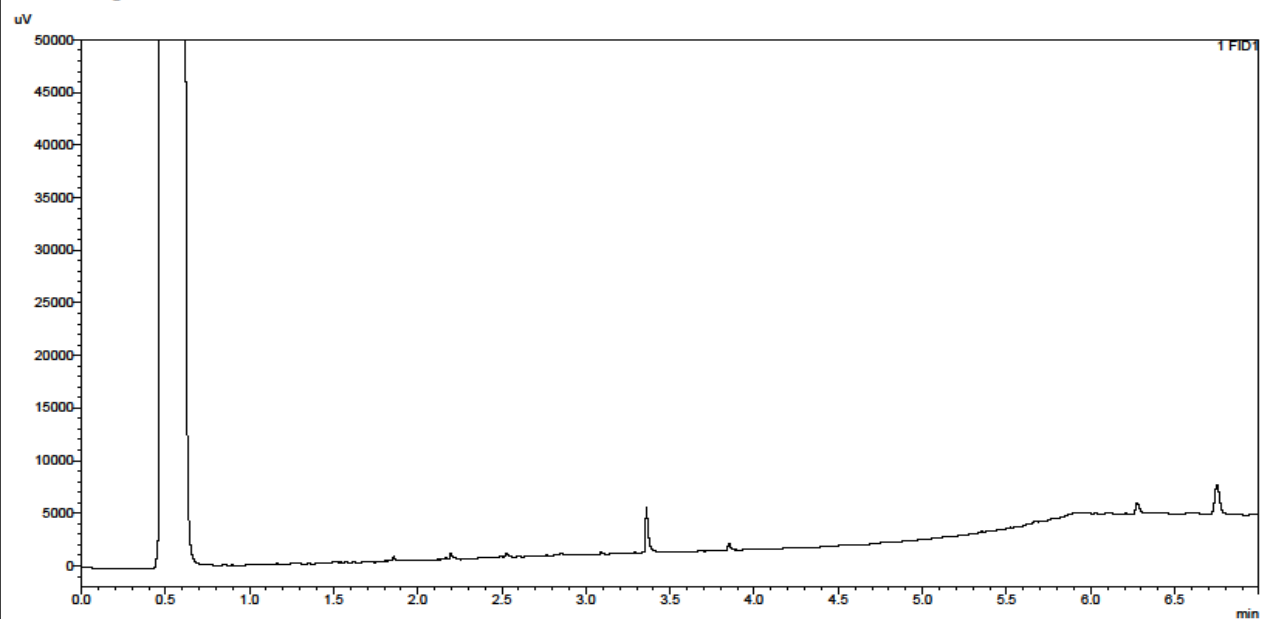
<Sample Information>

Sample Name : Front 1542116 22-43062
Data Filename : 2022-11-17_17112022_Front 1542116 22-43062_019.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 32
Date Acquired : 17/11/2022 18:15:19
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542118

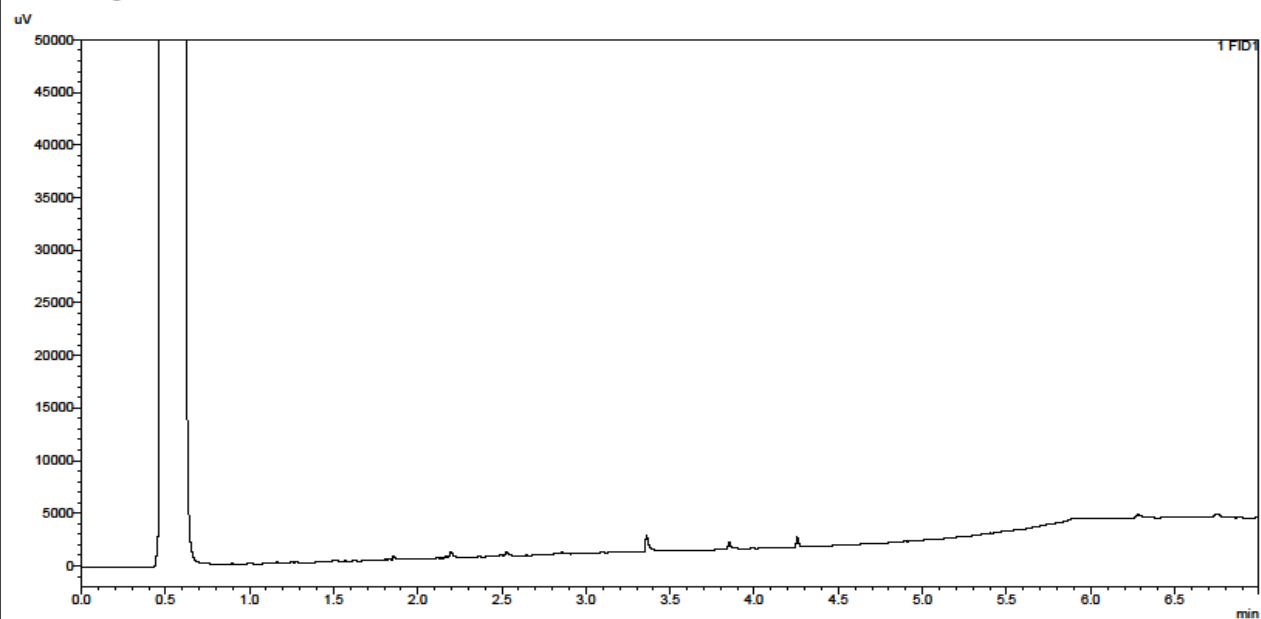
<Sample Information>

Sample Name : Front 1542118 22-43062
Data Filename : 2022-11-17_17112022_Front 1542118 22-43062_021.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 33
Date Acquired : 17/11/2022 18:27:27
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542119

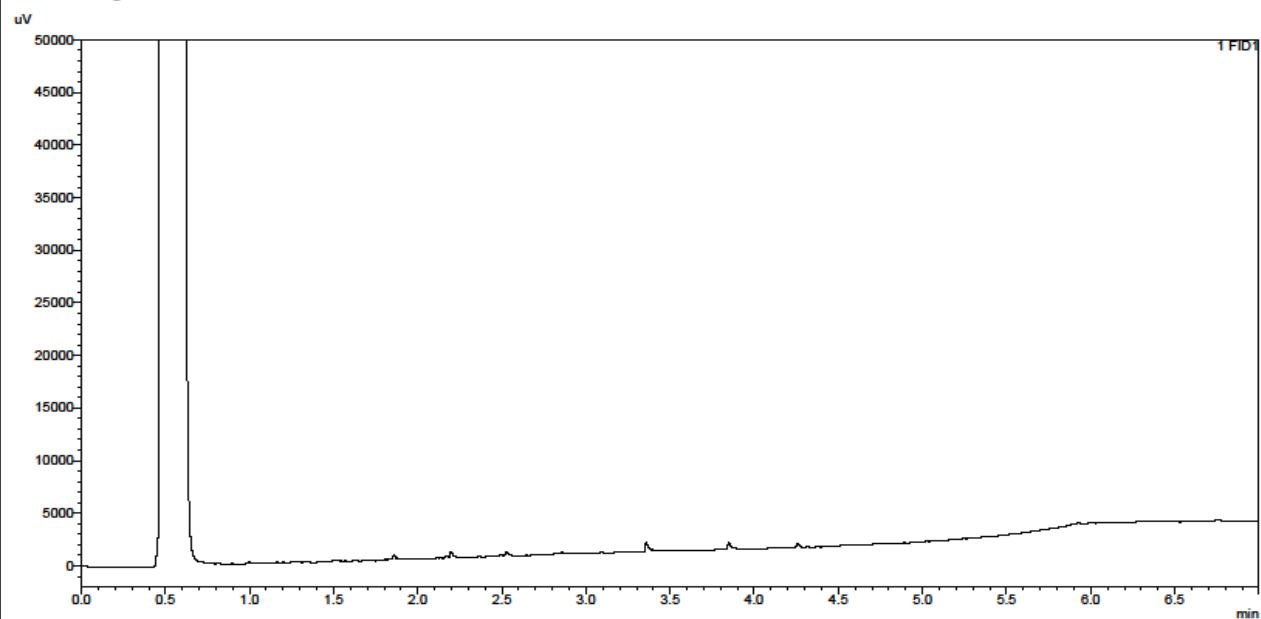
<Sample Information>

Sample Name : Front 1542119 22-43062
Data Filename : 2022-11-17_17112022_Front 1542119 22-43062_023.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 34
Date Acquired : 17/11/2022 18:39:34
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542120

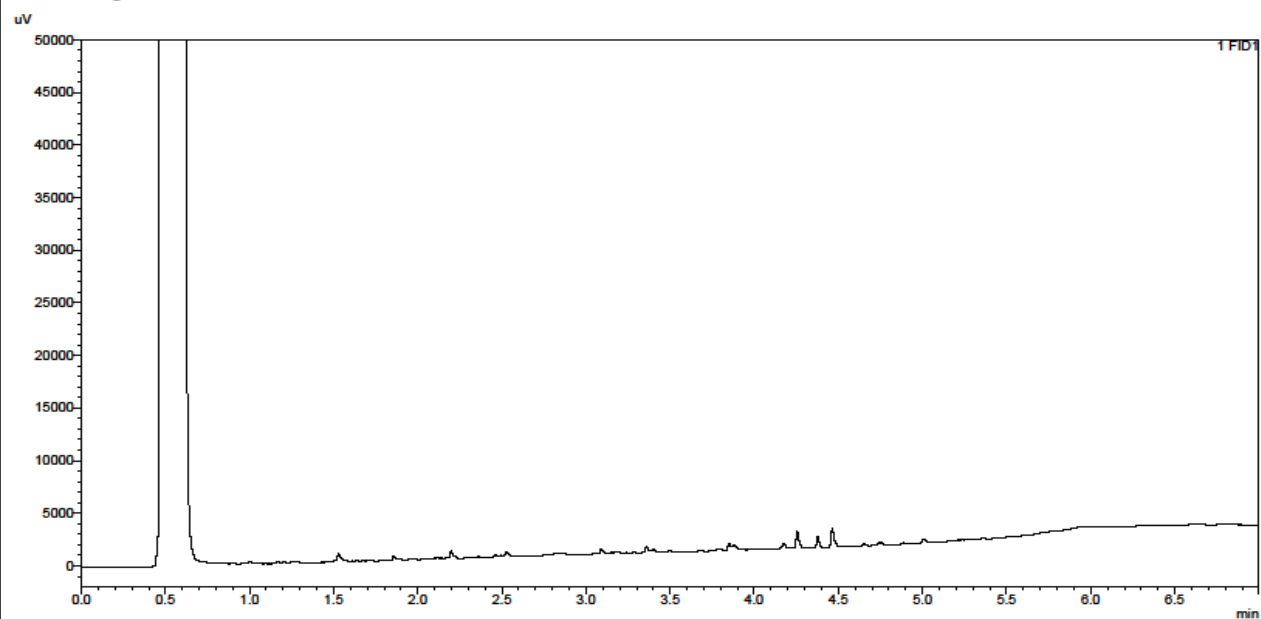
<Sample Information>

Sample Name : Front 1542120 22-43062
Data Filename : 2022-11-17_17112022_Front 1542120 22-43062_025.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 35
Date Acquired : 17/11/2022 18:51:38
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542122

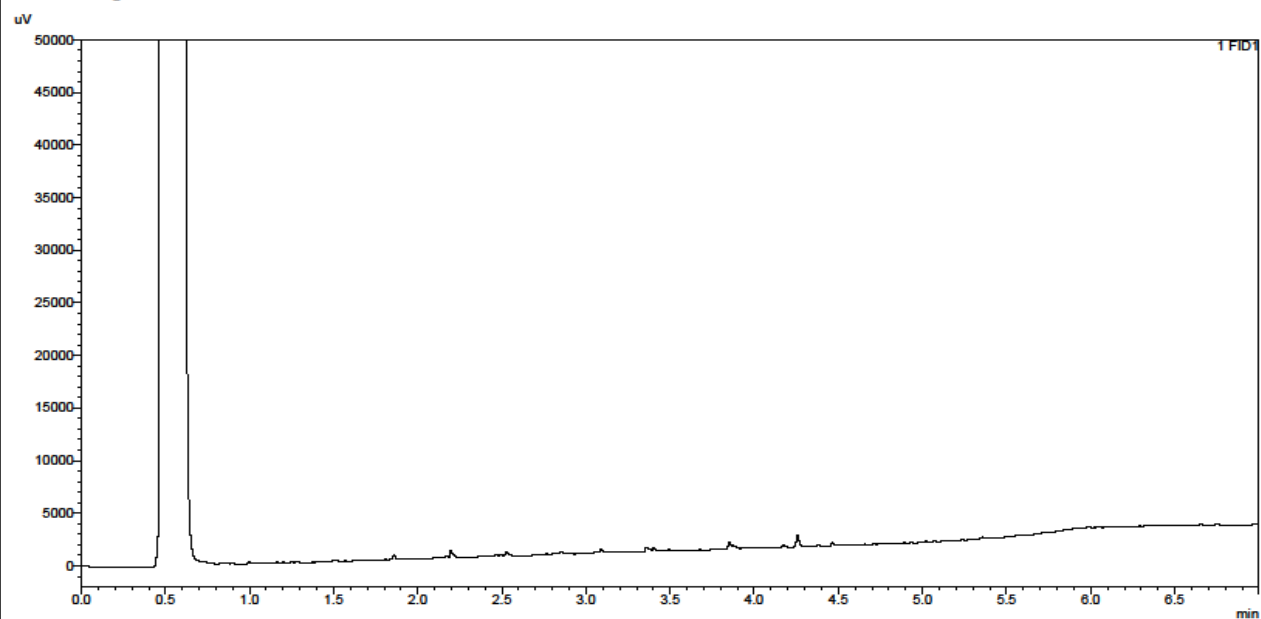
<Sample Information>

Sample Name : Front 1542122 22-43062
Data Filename : 2022-11-17_17112022_Front 1542122 22-43062_027.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 38
Date Acquired : 17/11/2022 19:03:47
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542123

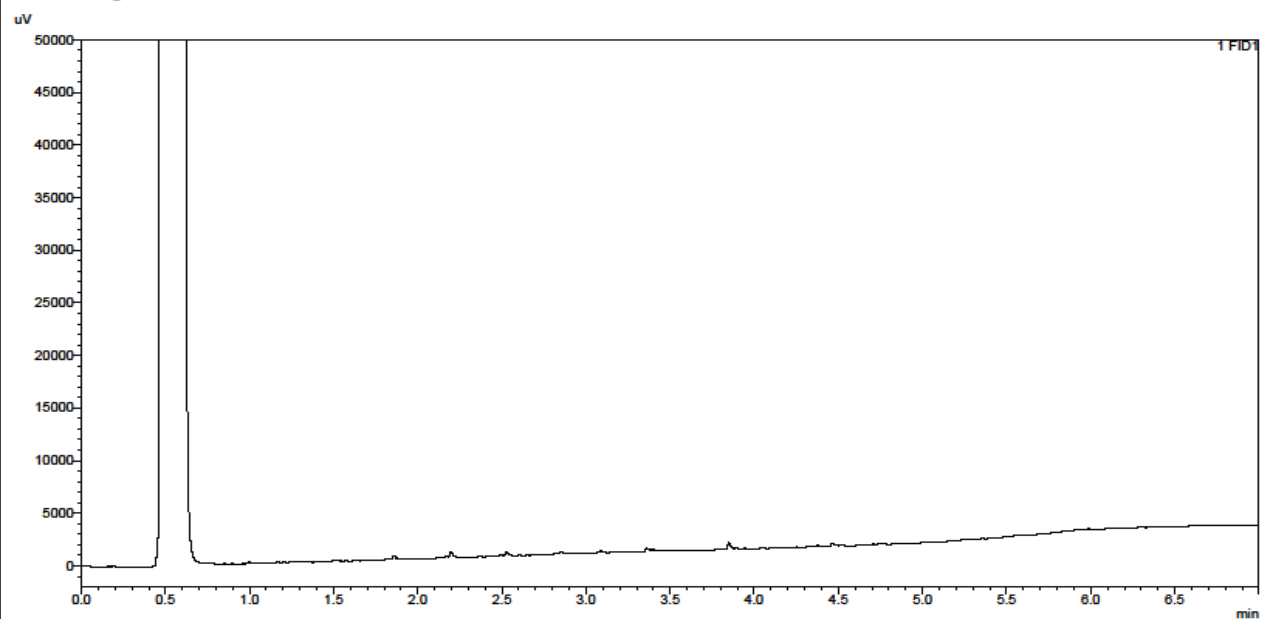
<Sample Information>

Sample Name : Front 1542123 22-43062
Data Filename : 2022-11-17_17112022_Front 1542123 22-43062_029.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 37
Date Acquired : 17/11/2022 19:15:53
Date Processed : 17/11/2022



Chemtest

<Chromatogram>



TPH Chromatogram on Soil Sample: 1542127

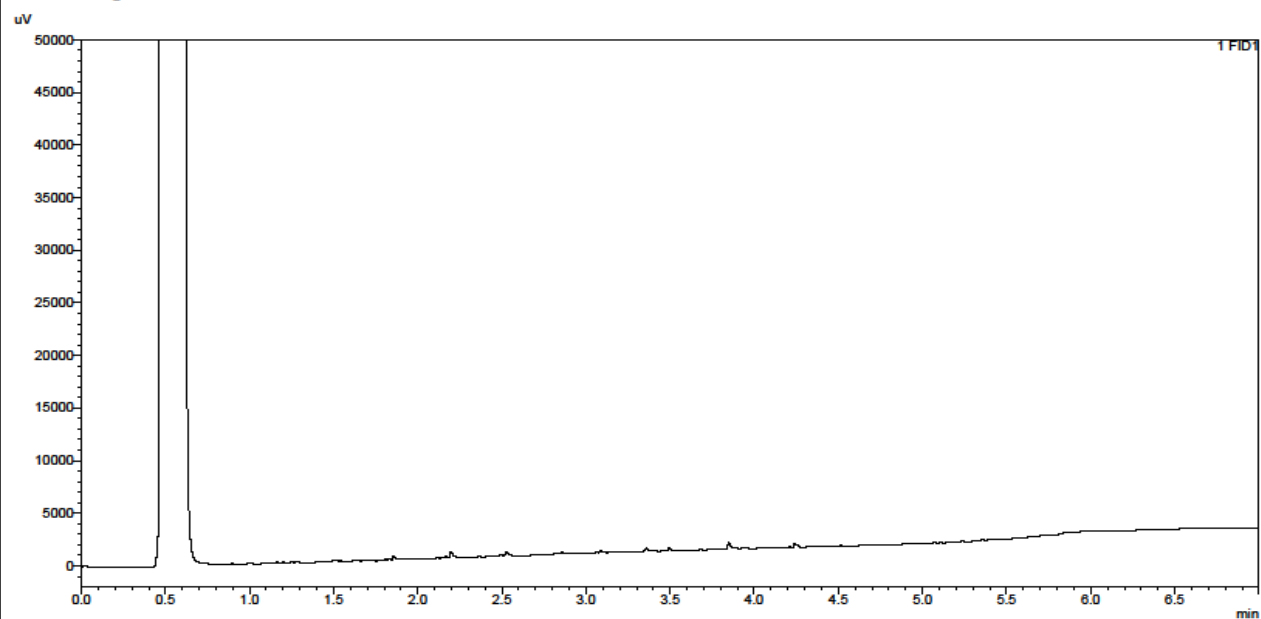
<Sample Information>

Sample Name : Front 1542127 22-43062
Data Filename : 2022-11-17_17112022_Front 1542127 22-43062_031.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 38
Date Acquired : 17/11/2022 19:28:00
Date Processed : 17/11/2022



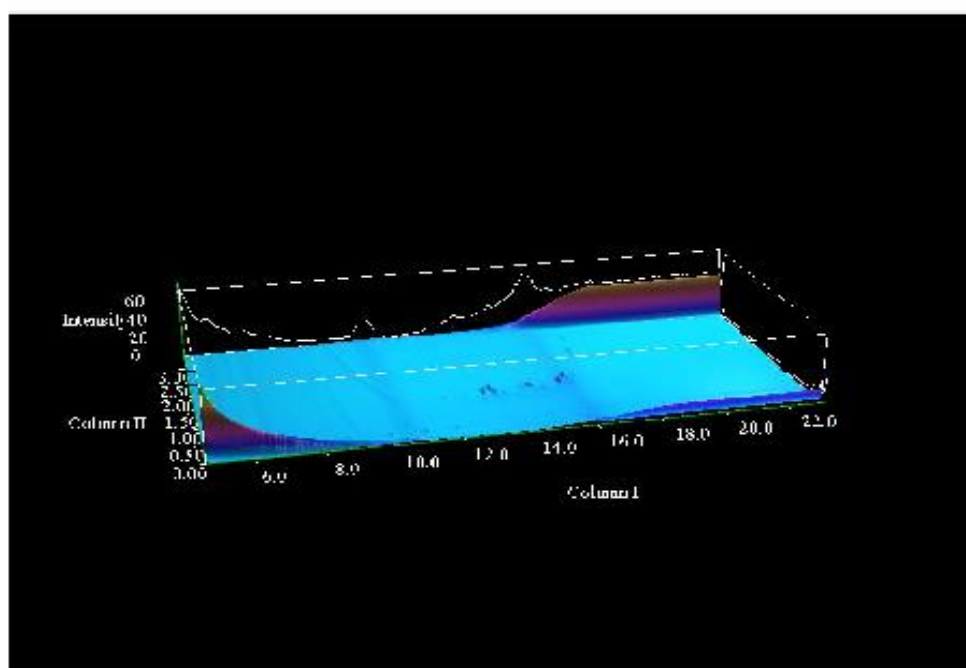
Chemtest

<Chromatogram>

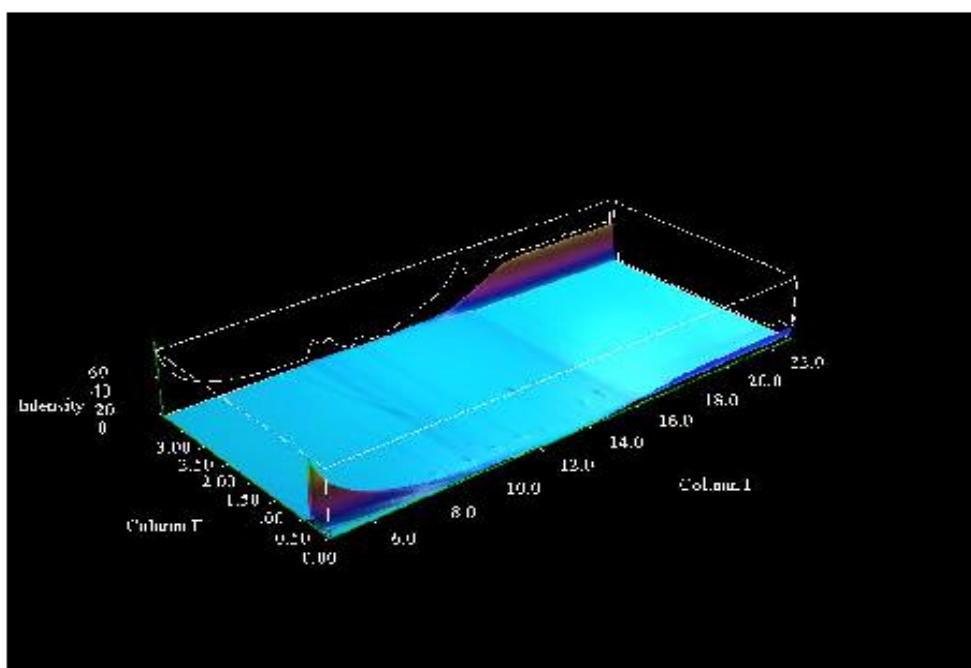


TPH Chromatogram on Soil Sample: 1542128

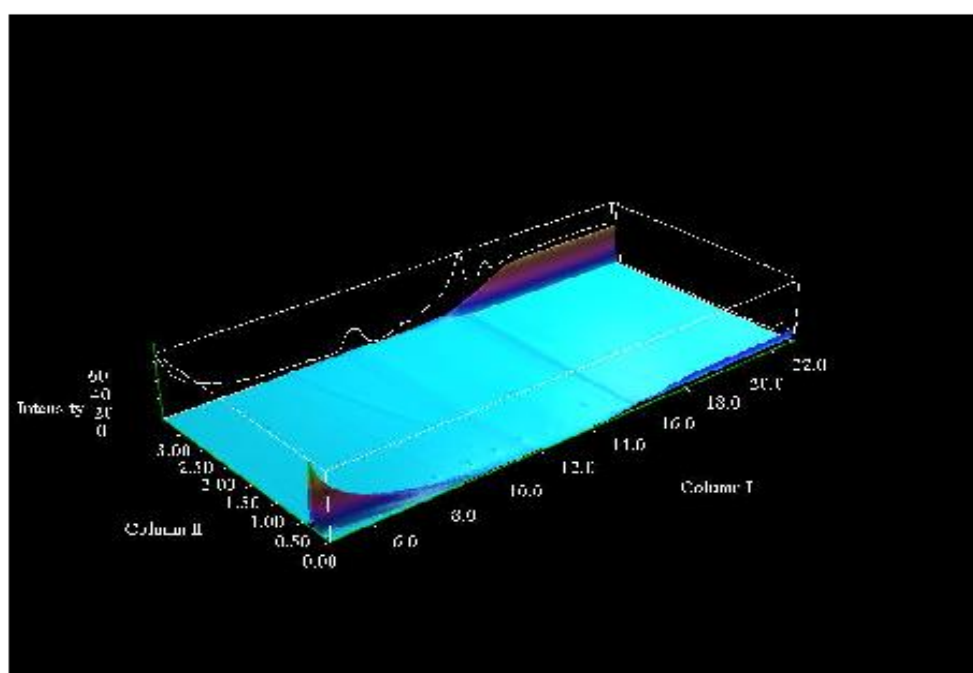
TPH Chromatogram on Soil Sample: 1542130



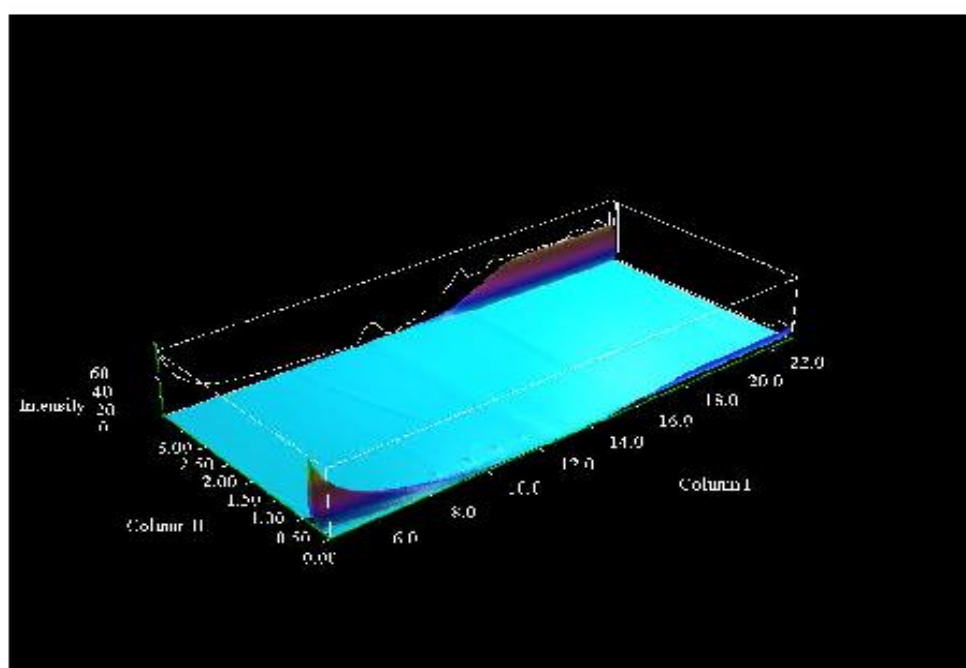
TPH Chromatogram on Soil Sample: 1542131



TPH Chromatogram on Soil Sample: 1542132



TPH Chromatogram on Soil Sample: 1542133



Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[a,h]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com



2183

Final Report

Report No.: 22-43818-1
Initial Date of Issue: 18-Nov-2022
Client HSP Consulting Engineers Limited
Client Address: Lawrence House
Meadowbank Way
Eastwood
Nottinghamshire
NG16 3SB
Contact(s): Norezrin Shafii
Project C4103 Coleg Sir Gar - Pibrwylwyd
Campus

Quotation No.:	Date Received:	15-Nov-2022
Order No.:	Date Instructed:	15-Nov-2022
No. of Samples: 6		
Turnaround (Wkdays): 5	Results Due:	21-Nov-2022
Date Approved:	18-Nov-2022	

Approved By:



Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: C4103 Coleg Sir Gar - Pibrwlyd Campus

Client: HSP Consulting Engineers Limited	Chemtest Job No.:					22-43818	22-43818	22-43818	22-43818	22-43818	22-43818
Quotation No.:	Chemtest Sample ID.:					1545604	1545605	1545606	1545607	1545608	1545609
	Sample Location:					WS02	WS04	WS06	WS09	WS10	WS11
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					1.70	1.80	1.80	3.90	2.90	1.80
	Date Sampled:					02-Nov-2022	03-Nov-2022	03-Nov-2022	01-Nov-2022	02-Nov-2022	02-Nov-2022
Determinand	Accred.	SOP	Units	LOD							
Moisture	N	2030	%	0.020	8.1	6.6	8.5	8.3	8.6	14	
pH	U	2010		4.0	7.6	7.5	7.6	6.6	5.6	6.7	
Sulphate (2:1 Water Soluble) as SO ₄	U	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

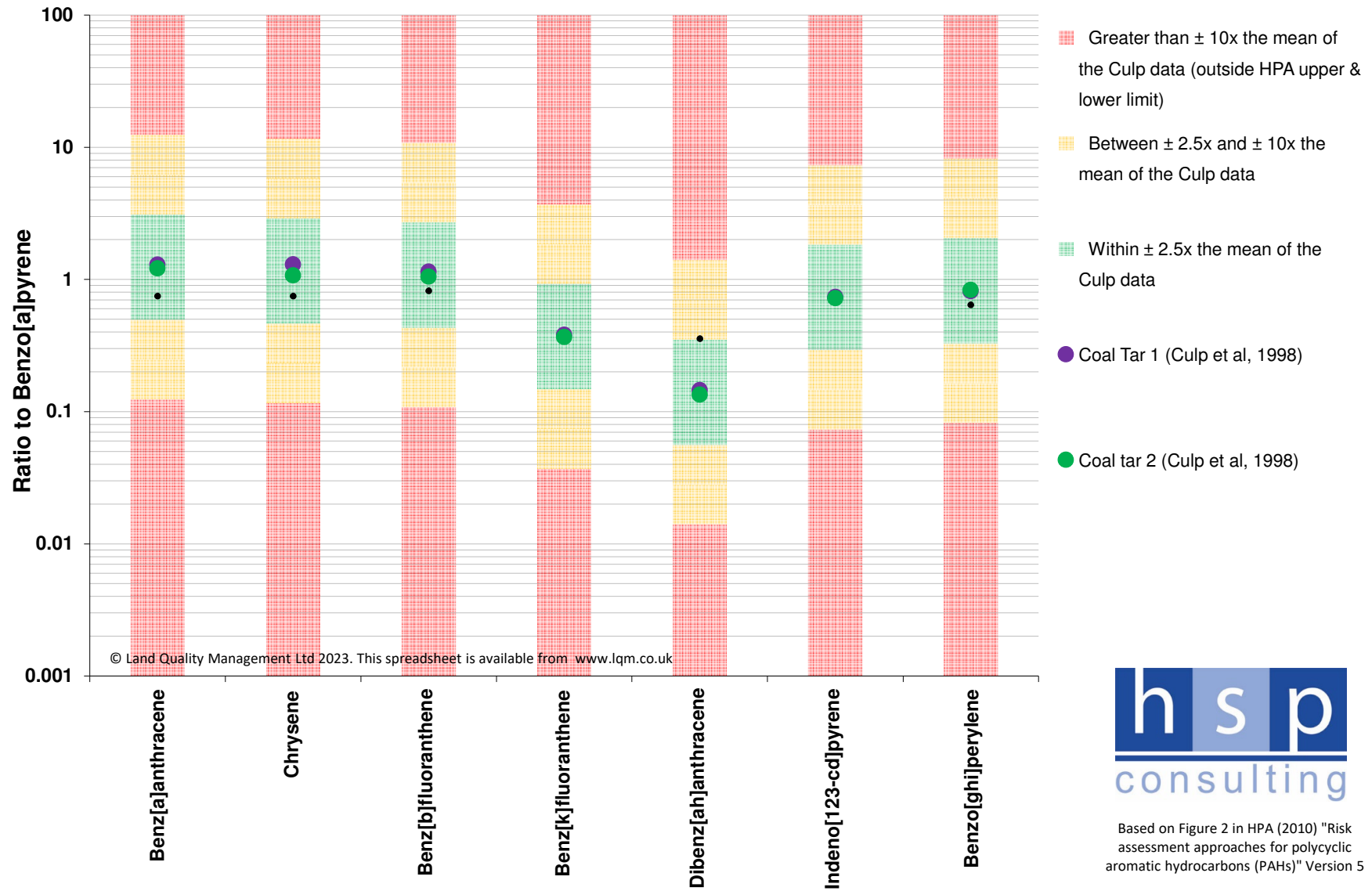
All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

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

customerservices@chemtest.com



Appendix VI



LABORATORY REPORT



4043

Contract Number: PSL22/7592

Report Date: 14 December 2022

Client's Reference:

Client Name: HSP Consulting
Lawrence House
4 Meadowbank Way
Eastwood
Nottingham
NG16 3SB

For the attention of: Ezrin Shafli

Contract Title: Coleg Sir Gar - Pibwrlwyd Campus

Date Received: 28/11/2022

Date Commenced: 28/11/2022

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Director)

R Berriman
(Quality Manager)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)

M Fennell
(Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

Page 1 of

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

[illegible]

4043

PSL
Professional Soils Laboratory

Coleg Sir Gar - Pibwrlwyd Campus

Contract No:

PSL22/7592

Client Ref:

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

[illegible]

SYMBOLS : NP : Non Plastic

*** : Liquid Limit and Plastic Limit Wet Sieved.**



4043

PSL

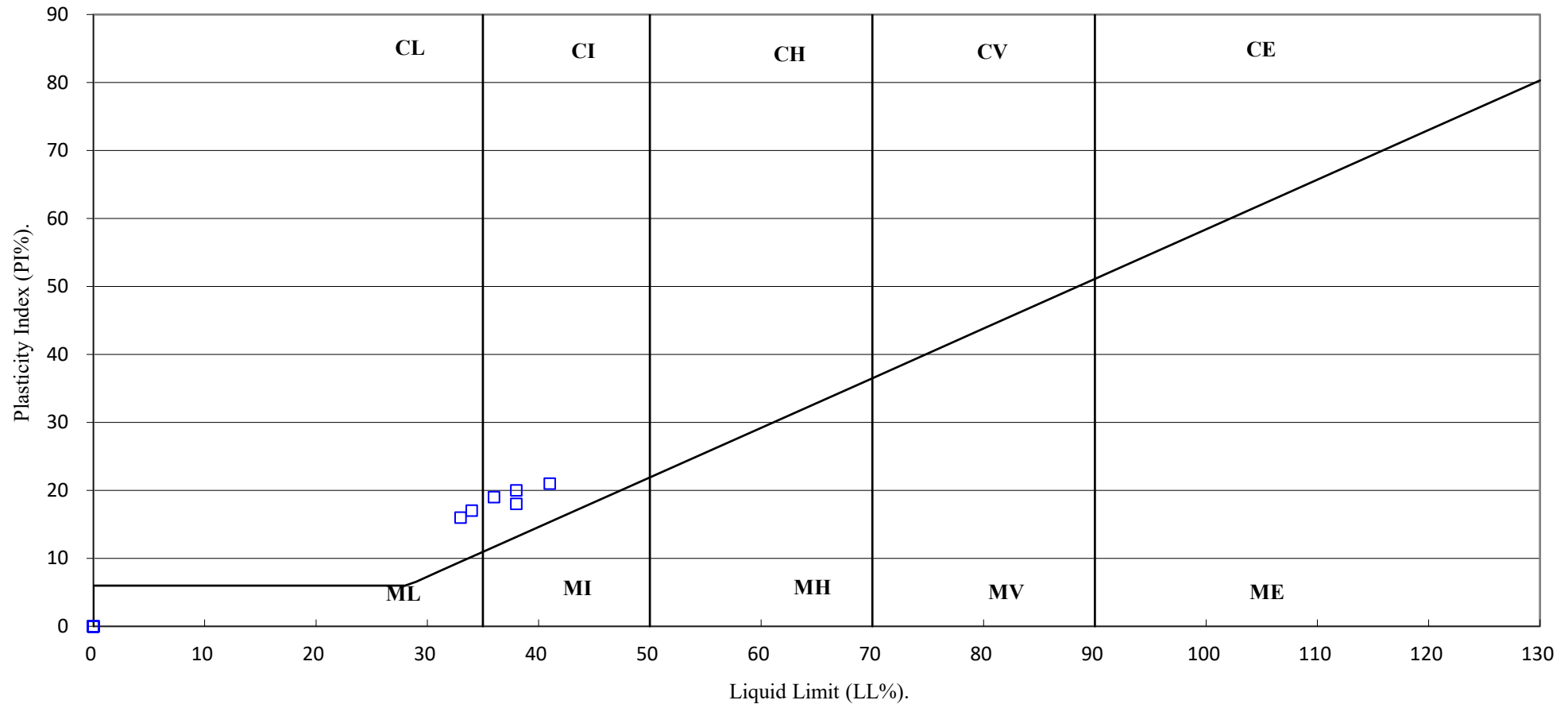
Professional Soils Laboratory

Contract No:

PSL22/

Client Ref:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



4043

PSL

Professional Soils Laboratory

0

Contract No:

PSL22/

Client Ref:



Results Summary

Apex Testing Solutions Limited

Sturmi Way
Village Farm Industrial Estate
Pyle
Bridgend
CF33 6BZ

Telephone: 01656 746762

E-mail: andrew.grogan@apex-drilling.com

laura.davis@apex-drilling.com

<u>Reporting Details</u>		<u>Key Information</u>	
Company Name:	HSP Consulting	Site Name:	Pibwrlwyd Campus
Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB	Job Number:	D22546
Contact Name:	Linden Baker	Date Received:	21/11/2022
Contact Number:		Job Coordinator:	A. Grogan

Item No.	Tests Undertaken	Number of Tests
1	Moisture Content - BS1377 -2: 1990	7
2	Atterburg Limits (4 point) - BS1377-2: 1990	5
3	Particle Size Distribution - BS1377-2: 1990	1

Results Issued: 25/11/2022

Comments

Results herein relate only to samples received in the laboratory and where not sampled by Apex Testing Solutions personnel relate to the samples as received.

Where tests are UKAS accredited any Opinion and/or Interpretation expressed herein are outside the scope of the UKAS Accreditation. The reports shall not be reproduced in full without the written approval of the laboratory.

Please contact the job coordinator should any further information be required.

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30461		

Site Ref / Hole ID:	CP1A	Depth (m):	0.30 - 1.00
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Brown slightly sandy slightly gravelly CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

15.4

Remarks:

QA Ref.

EN ISO 17892-1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D22546
Project Name: Pibwrlwyd Campus

Client: HSP Consulting
Address: Lawrence House
 Unit 6, Meadowbank Way
 Nottingham
 NG16 3SB

ATS Sample No: 30461

Site Ref / Hole ID: CP1A

Depth (m): 0.30 - 1.00

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Brown slightly sandy slightly gravelly CLAY

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

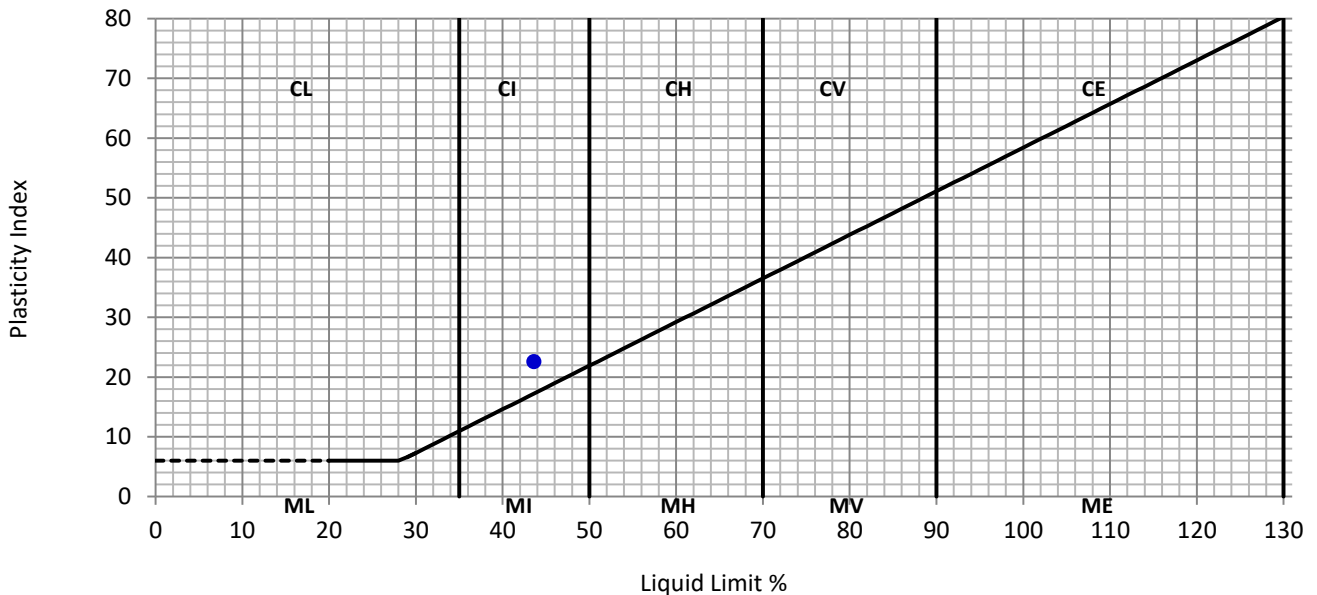
Date Received: 21 November 2022

Date Tested: 23 November 2022

Test Results

Liquid Limit	44	%
Plastic Limit	21	%
Plasticity Index	23	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	50 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
 Bridgend, CF33 6BZ
 Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

25/11/2022

Fig.

ATT

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30462		

Site Ref / Hole ID:	CP2	Depth (m):	0.50 - 1.00
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Greenish brown slightly sandy slightly gravelly CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

26.6

Remarks:

QA Ref.

EN ISO 17892-1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D22546
Project Name: Pibwrlwyd Campus

Client: HSP Consulting
Address: Lawrence House
 Unit 6, Meadowbank Way
 Nottingham
 NG16 3SB

ATS Sample No: 30462

Site Ref / Hole ID: CP2

Depth (m): 0.50 - 1.00

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Greenish brown slightly sandy slightly gravelly CLAY

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

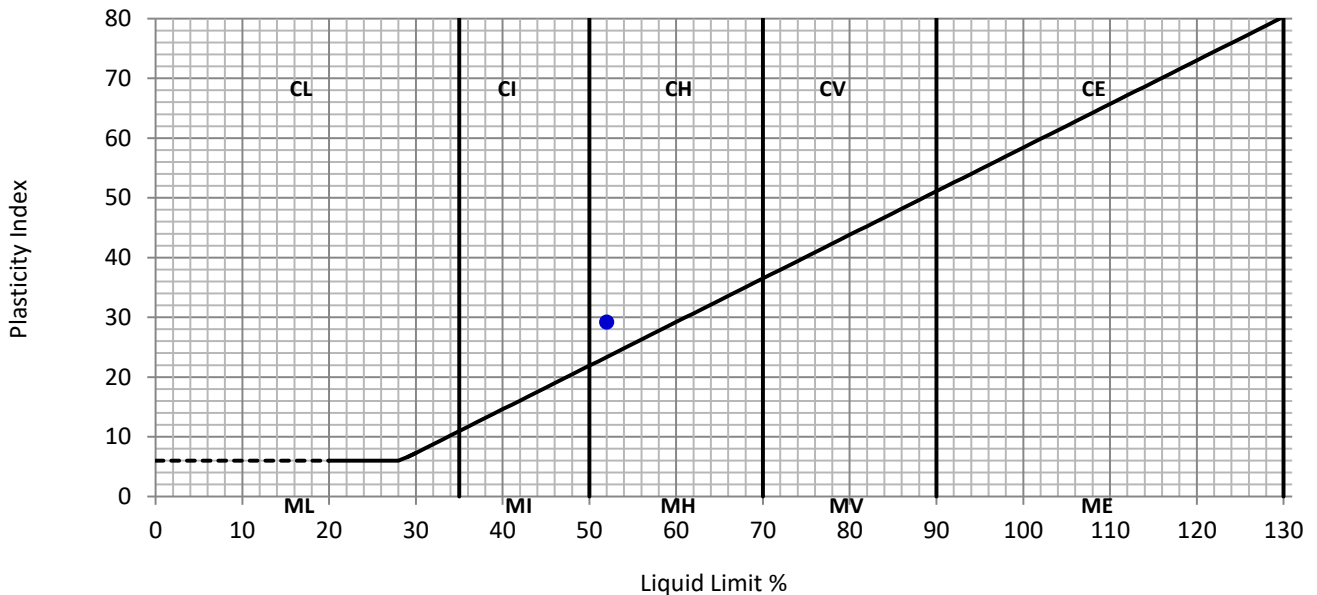
Date Received: 21 November 2022

Date Tested: 24 November 2022

Test Results

Liquid Limit	52	%
Plastic Limit	23	%
Plasticity Index	29	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	23 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
 Bridgend, CF33 6BZ
 Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

25/11/2022

Fig.

ATT

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30463		

Site Ref / Hole ID:	CP2	Depth (m):	1.50
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Light brown slightly gravelly slightly sandy CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

17.1

Remarks:

QA Ref.

EN ISO 17892-
1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D22546
Project Name: Pibwrlwyd Campus

Client: HSP Consulting
Address: Lawrence House
 Unit 6, Meadowbank Way
 Nottingham
 NG16 3SB

ATS Sample No: 30463

Site Ref / Hole ID: CP2

Depth (m): 1.50

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Light brown slightly gravelly slightly sandy CLAY

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

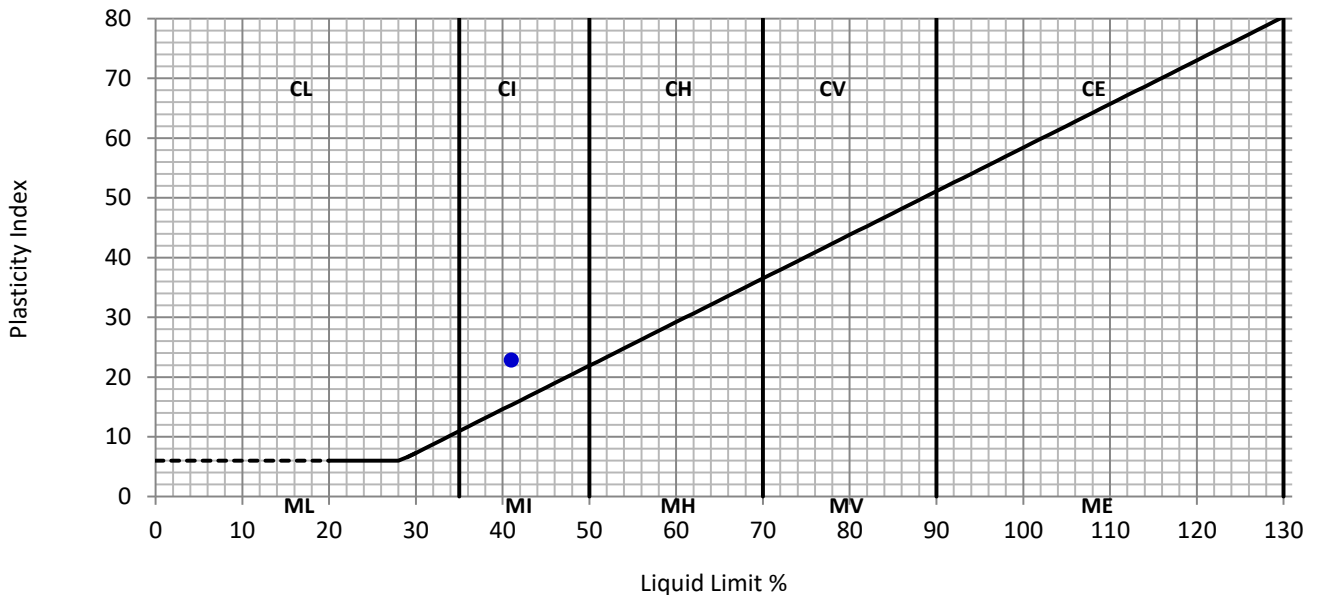
Date Received: 21 November 2022

Date Tested: 24 November 2022

Test Results

Liquid Limit	41	%
Plastic Limit	18	%
Plasticity Index	23	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	42 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
 Bridgend, CF33 6BZ
 Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

25/11/2022

Fig.

ATT

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30464		

Site Ref / Hole ID:	CP2	Depth (m):	3.50
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Grey slightly sandy slightly gravelly CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

11.8

Remarks:

QA Ref.

EN ISO 17892-1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30465		

Site Ref / Hole ID:	CP3	Depth (m):	0.50 - 1.00
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Grey slightly sandy slightly gravelly CLAY
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

18.4

Remarks:

QA Ref.

EN ISO 17892-1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30466		

Site Ref / Hole ID:	CP3	Depth (m):	1.50
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Greenish grey sandy clayey GRAVEL
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

16.6

Remarks:

QA Ref.

EN ISO 17892-
1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D22546
Project Name: Pibwrlwyd Campus

Client: HSP Consulting
Address: Lawrence House
 Unit 6, Meadowbank Way
 Nottingham
 NG16 3SB

ATS Sample No: 30466

Site Ref / Hole ID: CP3

Depth (m): 1.50

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Greenish grey sandy clayey GRAVEL

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

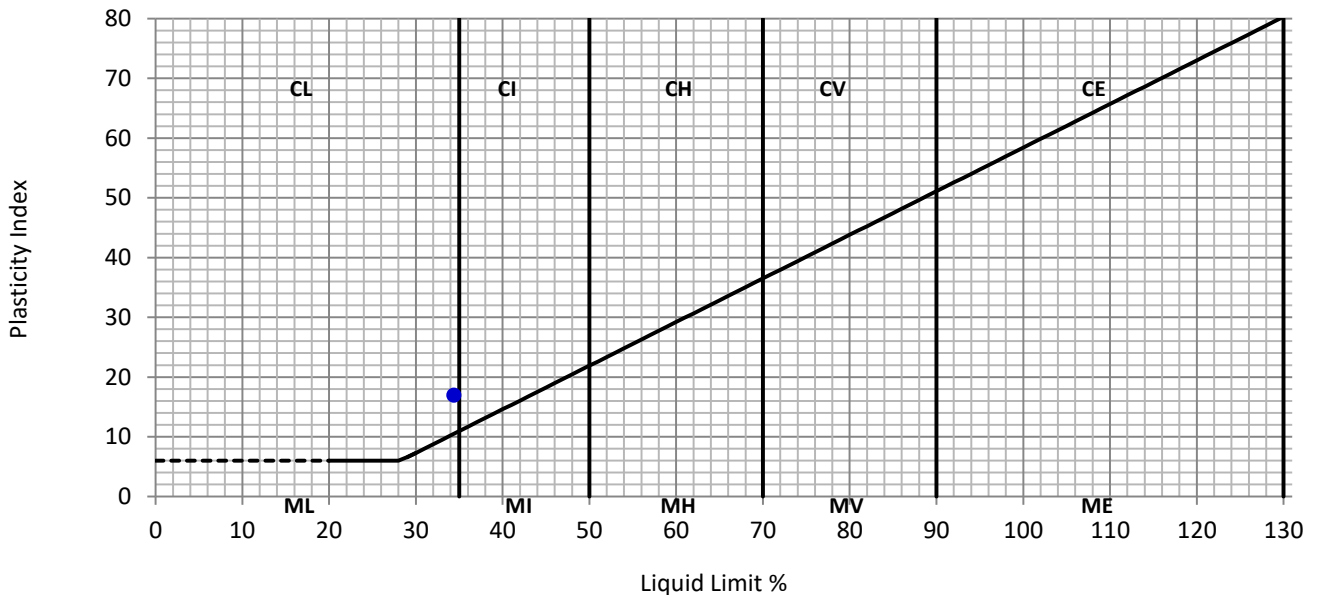
Date Received: 21 November 2022

Date Tested: 24 November 2022

Test Results

Liquid Limit	34	%
Plastic Limit	17	%
Plasticity Index	17	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	73 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
 Bridgend, CF33 6BZ
 Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

25/11/2022

Fig.

ATT

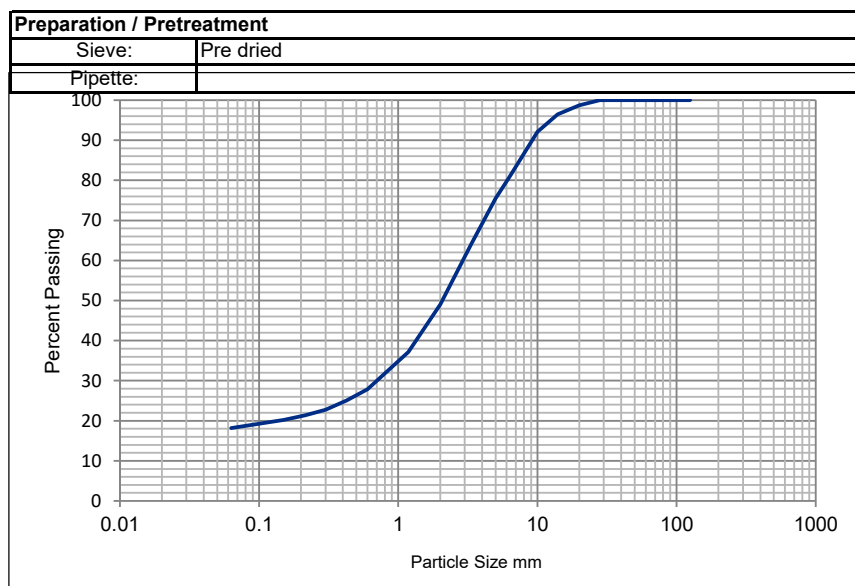
TEST REPORT
PARTICLE SIZE DISTRIBUTION ANALYSIS
BS1377:Part 2:1990

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address	Lawrence House
			Unit 6, Meadowbank Way
			Nottingham
ATS Sample No:	30467		NG16 3SB

Site Ref / Hole ID:	PSD	Depth (m):	6.30 - 6.50
Sample No:		Sample Type:	Bulk
Sampling Certificate Received:	No	Material Description:	Grey clayey very sandy GRAVEL
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	23 November 2022

Test Results

Sieving	
Particle Size mm	% Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	99
14	96
10	92
6.3	81
5.0	75
3.35	64
2.00	49
1.18	37
0.600	28
0.425	25
0.300	23
0.212	21
0.150	20
0.063	18



Sample Portions		Particle Density Mg/m3	Uniformity Coefficient D_{60} / D_{10}
Cobbles / Boulders	0	N/A	
Gravel	51	Dry mass of sample, kg	n/a
Sand	31		
Silt / Clay	18	4.0	

Remarks:

QA Ref.		Apex Testing Solutions Sturmi Way, Village Farm Industrial Est, Pyle, Bridgend, CF33 6BZ Tel: 01656 746762 Fax: 01656 749096		Approver <i>G Llewellyn</i> G Llewellyn, Senior Technician	Date 14/10/2022	Fig PSD
BS1377 - 4 Rev. 2.0		7771				

TEST REPORT
Determination Of Water Content
ISO 17892-1: 2014

Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30473		

Site Ref / Hole ID:	CP1A	Depth (m):	2.50
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Greenish brown sandy clayey GRAVEL
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	22 November 2022

Test Results

Moisture Content (%)

15.0

Remarks:

QA Ref.

EN ISO 17892-
1:2014 E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est,
Pyle, Bridgend, CF33 6BZ

Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

Date

25/11/2022

Fig

MC

G Llewellyn, Senior Technician

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

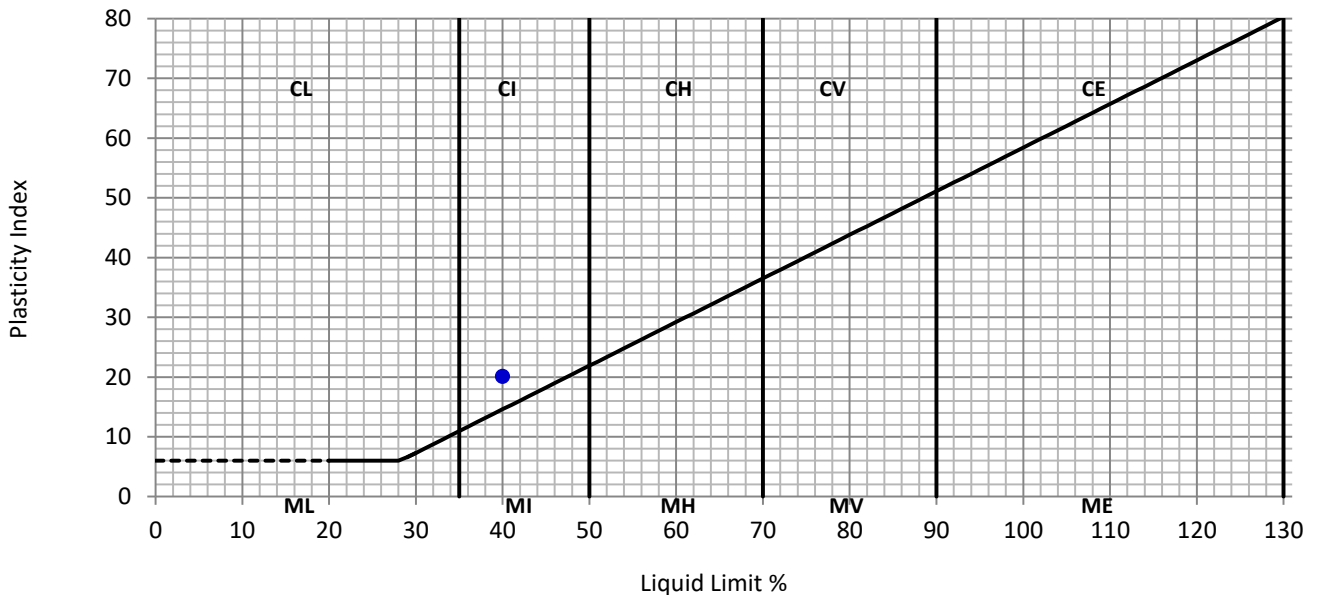
Project No:	D22546	Client:	HSP Consulting
Project Name:	Pibwrlwyd Campus	Address:	Lawrence House Unit 6, Meadowbank Way Nottingham NG16 3SB
ATS Sample No:	30473		

Site Ref / Hole ID:	CP1A	Depth (m):	2.50
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Greenish brown sandy clayey GRAVEL
Location in Works:	N/A	Material Source:	Site Generated
Date Sampled:	Unknown	Material Supplier:	Site Generated
Sampled By:	Client	Specification:	BS1377
Date Received:	21 November 2022	Date Tested:	24 November 2022

Test Results

Liquid Limit	40	%
Plastic Limit	20	%
Plasticity Index	20	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	71 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

25/11/2022

Fig.

ATT

Appendix VII

Gas Monitoring Certificate



Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	20.1	<0.1	<1	<1	<0.1	4.00	2.15
00:15	0.1	<0.1	<0.1	18.7	<0.1	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
03:15	0.1	<0.12	<0.1	18.4	<0.1	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	18.4	<0.1	<1	<1	<0.1	4.00	2.15
Peak	0.1	0.0	0.0	20.1	0.0	0.0	0.0	0.0	4.00	2.15

Date	Notes:		Barometric Pressure, mbar	1017
11.011.2022	Engineer	LAB		Rising
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	15

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.0	2	<1	<1	<0.1	4.00	3.20
00:15	0.1	<0.1	<0.1	16.0	2	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	16.0	2.2	<1	<1	<0.1	4.00	3.20
Peak	0.1	0.0	0.0	16.0	2.2	0.0	0.0	0.0	4.00	3.20

Date	Notes:		Barometric Pressure, mbar	1017
11.011.2022	Engineer	LAB		Pressure Trend
	Equipment	GFM430	Air Temp (°C)	Rising
				15

Gas Monitoring Certificate



Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	5.7	1.2	<1	<1	<0.1	3.65	1.52
00:15	0.1	<0.1	<0.1	5.4	1.4	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	5.3	1.4	<1	<1	<0.1	3.65	1.52
Peak	0.1	0.0	0.0	5.7	1.4	0.0	0.0	0.0	3.65	1.52

Date	Notes:			
11.011.2022	Engineer	LAB	Barometric Pressure, mbar	1017
			Pressure Trend	Rising
	Equipment	GFM430	Air Temp (°C)	15

Gas Monitoring Certificate



Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.4	0.6	<1	<1	<0.1	4.00	3.55
00:15	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	13.2	0.6	<1	<1	<0.1	4.00	3.55
Peak	0.1	0.0	0.0	16.4	0.6	0.0	0.0	0.0	4.00	3.55

Date	Notes:		Barometric Pressure, mbar	982
21.11.2022	Engineer	LAB		Steady
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	15.3	2.7	<1	<1	<0.1	4.00	3.10
00:15	0.1	<0.1	<0.1	15.3	2.7	<1	1	<0.1		
00:30	0.1	<0.1	<0.1	15.5	2.7	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	15.5	2.7	<1	1	<0.1		
01:00	0.1	<0.1	<0.1	15.5	3.0	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	15.5	3.0	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	15.6	3.0	<1	1	<0.1		
03:00	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	15.6	3.0	<1	<1	<0.1	4.00	3.10
Peak	0.1	0.0	0.0	15.6	3.0	0.0	1.0	0.0	4.00	3.10

Date	Notes:		Barometric Pressure, mbar	982
21.11.2022	Engineer	LAB		Steady
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1	3.65	1.66
00:15	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	3.8	1.9	<1	<1	<0.1	3.65	1.66
Peak	0.1	0.0	0.0	3.8	1.9	0.0	0.0	0.0	3.65	1.66

Date	Notes:		
21.11.2022	Engineer	LAB	Barometric Pressure, mbar
			Pressure Trend
	Equipment	GFM430	Air Temp (°C)
			982
			Steady
			9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1	4.00	3.90
00:15	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	14.6	1.5	<1	<1	<0.1	4.00	3.90
Peak	0.1	0.0	0.0	14.6	1.5	0.0	0.0	0.0	4.00	3.90

Date	Notes:		Barometric Pressure, mbar	1008
08/12/2022	Engineer	LAB		Steady
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1	4.00	3.90
00:15	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	14.9	2.3	<1	<1	<0.1	4.00	3.90
Peak	0.1	0.0	0.0	14.9	2.3	0.0	0.0	0.0	4.00	3.90

Date	Notes:		Barometric Pressure, mbar	1008
08/12/2022	Engineer	LAB		Steady
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.5	1.6	<1	<1	<0.1	3.65	3.10
00:15	0.1	<0.1	<0.1	7.8	2.6	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	3.9	2.6	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	2.3	2.6	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	1.8	2.7	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	1.8	2.7	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	1.8	2.8	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	1.8	2.8	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	1.7	2.8	<1	<1	<0.1	3.65	3.10
Peak	0.1	0.0	0.0	16.5	2.8	0.0	0.0	0.0	3.65	3.10

Date	Notes:		Barometric Pressure, mbar	1008
08/12/2022	Engineer	LAB	Pressure Trend	Steady
	Equipment	GFM430	Air Temp (°C)	9

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1	4.00	3.90
00:15	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	13.4	0.5	<1	<1	<0.1	4.00	3.90
Peak	0.1	0.0	0.0	13.4	0.5	0.0	0.0	0.0	4.00	3.90

Date	Notes:		Barometric Pressure, mbar	998
12/01/2023	Engineer	LAB		Rising
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	11

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1	4.00	3.85
00:15	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	15.9	2.6	<1	<1	<0.1	4.00	3.85
Peak	0.1	0.0	0.0	15.9	2.6	0.0	0.0	0.0	4.00	3.85

Date	Notes:		Barometric Pressure, mbar	998
12/01/2023	Engineer	LAB		Pressure Trend
				Rising
	Equipment	GFM430	Air Temp (°C)	11

Gas Monitoring Certificate



Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.4	1.2	<1	<1	<0.1	3.65	3.20
00:15	0.1	<0.1	<0.1	12.1	1.4	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	7.6	1.5	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	4.8	1.5	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	4.6	1.5	<1	<1	<0.1	3.65	3.20
Peak	0.1	0.0	0.0	16.4	1.5	0.0	0.0	0.0	3.65	3.20

Date	Notes:		
12/01/2023	Engineer	LAB	Barometric Pressure, mbar
			Pressure Trend
	Equipment	GFM430	Air Temp (°C)
			998
			rising
			11

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.3	1.2	<1	<1	<0.1	4.00	3.90
00:15	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	14.9	1.2	<1	<1	<0.1	4.00	3.90
Peak	0.1	0.0	0.0	16.3	1.2	0.0	0.0	0.0	4.00	3.90

Date	Notes:		Barometric Pressure, mbar	1024
02/02/2023	Engineer	LAB		Steady
	Equipment	GFM430	Air Temp (°C)	12

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1	4.00	3.80
00:15	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	16.6	1.8	<1	<1	<0.1	4.00	3.80
Peak	0.1	0.0	0.0	16.6	1.8	0.0	0.0	0.0	4.00	3.80

Date	Notes:		Barometric Pressure, mbar	1024
02/02/2023	Engineer	LAB		Steady
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	12

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	17.9	1.5	<1	<1	<0.1	3.65	3.15
00:15	0.1	<0.1	<0.1	8.4	1.6	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	3.3	1.6	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	2.6	1.7	<1	<1	<0.1	3.65	3.15
Peak	0.1	0.0	0.0	17.9	1.7	0.0	0.0	0.0	3.65	3.15

Date	Notes:		Barometric Pressure, mbar	1024
02/02/2023	Engineer	LAB	Pressure Trend	Steady
	Equipment	GFM430	Air Temp (°C)	12

Gas Monitoring Certificate



Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

CP2

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	16.7	1.1	<1	<1	<0.1	4.00	3.90
00:15	0.1	<0.1	<0.1	16.2	1.1	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	1.2	1.2	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	1.2	1.3	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	1.2	1.3	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	1.2	1.4	<1	<1	<0.1	4.00	3.90
Peak	0.1	0.0	0.0	16.7	1.4	0.0	0.0	0.0	4.00	3.90

Date	Notes:		Barometric Pressure, mbar	1032
26/01/2023	Engineer	LAB		Falling
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	11

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS09

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	17.4	1.6	<1	<1	<0.1	4.00	3.80
00:15	0.1	<0.1	<0.1	17.1	1.6	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	16.9	1.7	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	16.9	1.8	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	16.9	1.8	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	16.9	1.9	<1	<1	<0.1	4.00	3.80
Peak	0.1	0.0	0.0	17.4	1.9	0.0	0.0	0.0	4.00	3.80

Date	Notes:		Barometric Pressure, mbar	1032
26/01/2023	Engineer	LAB		Falling
			Pressure Trend	
	Equipment	GFM430	Air Temp (°C)	11

Gas Monitoring Certificate

Project Number C4103
Project Name Pibwrlwyd Campus
Client Gleeds

WS12

Time	Gas Flow Rate. (l/hr)	Detection Limit							Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
		Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)		
00:00	0.1	<0.1	<0.1	18.2	1.4	<1	<1	<0.1	3.65	3.15
00:15	0.1	<0.1	<0.1	6.5	1.4	<1	<1	<0.1		
00:30	0.1	<0.1	<0.1	3.3	1.5	<1	<1	<0.1		
00:45	0.1	<0.1	<0.1	2.8	1.6	<1	<1	<0.1		
01:00	0.1	<0.1	<0.1	2.8	1.6	<1	<1	<0.1		
01:15	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
01:30	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
01:45	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
02:00	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
02:15	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
02:30	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
02:45	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
03:00	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
03:15	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
03:30	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
03:45	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
04:00	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1		
04:15										
04:30										
04:45										
05:00										
Steady	0.1	<0.1	<0.1	2.8	1.8	<1	<1	<0.1	3.65	3.15
Peak	0.1	0.0	0.0	18.2	1.8	0.0	0.0	0.0	3.65	3.15

Date	Notes:			
26/01/2023	Engineer	LAB	Barometric Pressure, mbar	1032
			Pressure Trend	Falling
	Equipment	GFM430	Air Temp (°C)	11

TEST DATE AND CONDITIONS			
Date		07/07/2022	
Atmospheric Pressure		1011	mB
Ambient Temperature		22.0	°C
EnviroNics Serial No.		5089	

**GFM430 Final Inspection & Calibration
Check Certificate**

GAS DATA LTD

Unit 4, Fairfield Court

Seven Stars Estate

Wheler Rd

Coventry

CV3 4LJ

Tel 02476303311



GAS DATA
LISTEN · ANALYSE · INFORM

Fax 02476307711

Customer	HSP Consulting Engineers Ltd
Certificate Number	123328
Order Number	331479

Serial Number	10152
Software Version	G430-00.0024/0013

Recalibration DUE Date
07/07/23

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	450	Accept > 200 cc/min	Pump Flow @ -200mB	200	Accept > 200 cc/min
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH ₄		CO ₂		O ₂	
	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %
	Readings %		Readings %		Readings %	
	59.7	60	39.7	40	20.9	20.9
	Accept ±3.0		Accept ±3.0		Accept ±0.5	
	5.0	5	5.0	5	6.0	6
	Accept ±0.3		Accept ±0.3		Accept ±0.3	
Zero Reading 100% N ₂	0.0	0	0.0	0	0.0	0
	Accept ±0.0		Accept ±0.0		Accept ±0.1	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings (ppm)			
Toxic Gas	Range (ppm)		Zero Reading		Instrument Gas Reading	
H ₂ S	2000	1500	0	Accept ±0.0	1500	Accept ±5.0
CO	2000	1000	0	Accept ±0.0	1000	Accept ±5.0

Cross Gas Effects									
Applied Gas (ppm)		Instrument Readings (ppm)							
Toxic Gas	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:			
H2S	1500	1500		0					
CO	1000	110		1000					
Pressure Checks									
Atmospheric Pressure [AP] (mB)					Static Pressure [SP] (mB)				
Current Atmospheric		Instrument Atmospheric			Applied Pressure (mB)		Instrument Pressure (mB)		
Pressure (mB)		Pressure Reading (mB)							
All Ports		Open Ports		1011	Accept ±2.0	0.0mB		N/A	Accept ±0.0
AP Port (Internal)		+800 mB		800	Accept ±5.0	+50mB		N/A	Accept ±2.0
AP Port (Internal)		+1200mb		1200	Accept ±5.0	-100mB		N/A	Accept ±2.0
Flow Checks									
Borehole Flow					Differential Pressure				
Applied Reading (l/h)		Instrument Reading (l/h)			Applied Pressure (Pa)		Instrument Reading (Pa)		
-30	-30.1	Accept ±3.0			-270	-276	Accept ±50		
-3	-3.0	Accept ±1.0			-12	-12	Accept ±6.0		
0	0.0	Accept ±0.0			0	0	Accept ±0.5		
3	3.0	Accept ±0.5			12	12	Accept ±3.0		
30	29.9	Accept ±3.0			275	273	Accept ±50		
60	60.0	Accept ±6.0			856	861	Accept ±130		
90	90.7	Accept ±9.0			1698	1747	Accept ±250		
Temperature Checks									
Calibration Temperature				Instrument Temperature Reading °C					
Applied Temperature °C									
-10				-10.0	Accept ±2.0				
0				0.0	Accept ±1.0				
30				30.0	Accept ±1.0				
60				60.0	Accept ±1.0				
100				100.0	Accept ±1.0				

Technician:
Jack Rutland

Date Tested:
07/07/2022

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018.

TEST DATE AND CONDITIONS			
Date	7.7.22		
Atmospheric Pressure	1011	mB	
Ambient Temperature	22.0	°C	
EnviroNics Serial No.	5089		

GAS DATA LTD Unit 4 Fairfield Court Seven Stars Estate Coventry CV3 4LJ UK +44 (0)24 7630 3311	 GAS DATA LISTEN · ANALYSE · INFORM
--	--

GFM430 -1 OUTWARD INSPECTION & QUALITY CHECK SHEET

INSTRUMENT DETAILS			
SO Number	Instrument Type	Instrument Serial Number + SW Version	Job Number(s)
331479	GFM430	10152 G430-24/13	123328

Calibration Technician J. [Signature]

Date 7.7.22

Inspection Technician [Signature]

Date 8.7.22

INSTRUMENT CHECKS		Pass (P), Fail (F) or not applicable (NA)	INSTRUMENT PACKING LIST		Tick if included
Function Tests	Dust Caps Fitted	P	Instrument		✓
	Keyboard Test (All Keys)	P	Leather Case		✓
	Backlight	P	Instrument Strap		✓
	Clock Set / Running	P	AC Battery Charger (UK)		✓
	Comms Test	P	AC Battery Charger (EURO)		X
	Pump Flow Test (In & Out)	P	AC Battery Charger (US)		X
	Overall Leak Test (30mB)	n/a	AC Battery Charger (AUS)		X
	Battery Charge Test	P	Hard Carry Case		✓
	Service Date set to?	7.7.23	Gas Sample Tube – (new issue)		✓
Channel Test	Data Logging Enabled?	P	Flow Sample Tube – (new issue)		✓
	Verify CH4/LEL	P	Spares Pot		X
	Verify CO2	P	Allen Key		X
	Verify O2	P	Temperature Probe		X
	Verify LEL	P	Vane Anemometer		X
	Verify 1 st Option Gas	H2S	USB Cable		X
	Verify 2 nd Option Gas	CO	USB Memory stick		X
	Verify 3 rd Option Gas	N/A	SiteMan Software	Ver 4.15	X
	Verify 4 th Option Gas	N/A	Internal Filter Pack	Qty	X
	Verify Atmospheric pressure	P	External Filter Pack	Qty	X
	Verify static pressure	N/A	Field Guide		X
	Verify differential pressure	P	Operation Manual (hard copy)		X
	Verify flow	P	Extra Items: Sample Tubes Tools Various		
	Verify temperature probe input	P			
	Verify vane anemometer input	P	Comments:		
DataBase Checks	Jobcard(s) completed and signed	P			
	Jobcard(s) booked off database	P			
	Calibration certificate completed	P			
	Complete & print QI record	n/a			
Label Checks	No. of Calibration label fitted	GDC	11494		
	Warranty label fitted	P			
H2S Range	H2S Range from Sales Order	2000	ppm		
	H2S Range from Cal Cert	2000	ppm		
	Over-range value correct?	P			

Appendix VIII

Waste Classification Report

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

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



OCD5H-ALU9H-O5C0R

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

Job name

HWOL_22-43062-20221206 161820[2]

Description/Comments

General suite of contaminants - proposed school redevelopment

Project

C4103

Site

Coleg Sir Gar - Pibwrlwyd Campus

Classified by

Name: **Matthew Kent**
 Date: **10 Feb 2023 14:39 GMT**
 Telephone: **01773 535 555**
 Company: **HSP Consulting Engineers Limited**
Lawrence House
6 Meadowbank Way
Eastwood
NG16 3SB

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

HazWasteOnline™ Certification:

CERTIFIED

Course
 Hazardous Waste Classification

Date
 12 Feb 2020

Next 3 year Refresher due by Feb 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

Coleg Sig Gar

Post Code SA31 2NH

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Redevelopment on site

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

Excavation during redevelopment process

Description of the waste

Predominantly natural soils or variable consistency. Some limited Made Ground

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01-02/11/2022-0.40	0.40	Non Hazardous		3
2	WS02-02/11/2022-0.30	0.30	Non Hazardous		6
3	WS03-02/11/2022-0.40	0.40	Non Hazardous		9
4	WS04-02/11/2022-0.40	0.40	Non Hazardous		12
5	WS06-02/11/2022-0.40	0.40	Non Hazardous		15
6	WS07-02/11/2022-0.30	0.30	Non Hazardous		18
7	WS07-02/11/2022-0.90	0.90	Non Hazardous		21
8	WS09-02/11/2022-0.90	0.90	Non Hazardous		22
9	WS10-02/11/2022-0.10	0.10	Non Hazardous		23
10	WS10-02/11/2022-0.60	0.60	Non Hazardous		26
11	WS11-02/11/2022-0.20	0.20	Non Hazardous		29
12	WS11-02/11/2022-0.70	0.70	Non Hazardous		32
13	WS12-02/11/2022-0.40	0.40	Non Hazardous		35
14	WS12-02/11/2022-0.80	0.80	Non Hazardous		38

Related documents

#	Name	Description
1	HWOL_22-43062-20221206 161820.hwol	Eurofins Chemtest .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Matthew Kent

Created date: 10 Feb 2023 14:39 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	41
Appendix B: Rationale for selection of metal species	42
Appendix C: Version	43

Classification of sample: WS01-02/11/2022-0.40

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

Sample details

Sample name:	LoW Code:
WS01-02/11/2022-0.40	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				3.5 mg/kg	1.32	4.621 mg/kg	0.000462 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				8.4 mg/kg	1.462	12.277 mg/kg	0.00123 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				8.8 mg/kg	1.126	9.908 mg/kg	0.000991 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	4.8 mg/kg		4.8 mg/kg	0.00048 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				7.2 mg/kg	2.022	14.561 mg/kg	0.00146 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				<0.25 mg/kg	2.351	<0.588 mg/kg	<0.0000588 %			<LOD
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				18 mg/kg	2.469	44.447 mg/kg	0.00444 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH		PH		8.1 pH		8.1 pH	8.1 pH			
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				6.7 mg/kg	1.785	11.961 mg/kg	0.0012 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols		P1186		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.0121 %		

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: WS02-02/11/2022-0.30

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

Sample details

Sample name:	LoW Code:
WS02-02/11/2022-0.30	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30 m	
Moisture content:	
3.8%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 3.8% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				3.5 mg/kg	1.32	4.621 mg/kg	0.000462 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.16 mg/kg	1.142	0.183 mg/kg	0.0000183 %			
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				2.9 mg/kg	1.462	4.239 mg/kg	0.000424 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				5.4 mg/kg	1.126	6.08 mg/kg	0.000608 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	8.7 mg/kg		8.7 mg/kg	0.00087 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				3.5 mg/kg	2.022	7.078 mg/kg	0.000708 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				<0.25 mg/kg	2.351	<0.588 mg/kg	<0.0000588 %			<LOD
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				8.7 mg/kg	2.469	21.483 mg/kg	0.00215 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				9.2 pH		9.2 pH	9.2 pH			
			PH								
20	naphthalene				0.19 mg/kg		0.19 mg/kg	0.000019 %			
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				0.11 mg/kg		0.11 mg/kg	0.000011 %			
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				0.41 mg/kg		0.41 mg/kg	0.000041 %			
		205-912-4	206-44-0								
27	pyrene				0.34 mg/kg		0.34 mg/kg	0.000034 %			
		204-927-3	129-00-0								
28	benzo[a]anthracene				0.21 mg/kg		0.21 mg/kg	0.000021 %			
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				0.21 mg/kg		0.21 mg/kg	0.000021 %			
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				0.23 mg/kg		0.23 mg/kg	0.000023 %			
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				0.28 mg/kg		0.28 mg/kg	0.000028 %			
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				0.2 mg/kg		0.2 mg/kg	0.00002 %			
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				0.18 mg/kg		0.18 mg/kg	0.000018 %			
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				2.8 mg/kg	1.785	4.999 mg/kg	0.0005 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.00767 %		

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: WS03-02/11/2022-0.40

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

Sample details

Sample name:	LoW Code:
WS03-02/11/2022-0.40	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	
Moisture content:	
14%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				8.1 mg/kg	1.32	10.695 mg/kg	0.00107 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<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 compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	10 mg/kg		10 mg/kg	0.001 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				16 mg/kg	2.022	32.359 mg/kg	0.00324 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.39 mg/kg	2.351	0.917 mg/kg	0.0000917 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				36 mg/kg	2.469	88.895 mg/kg	0.00889 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene 601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
15	toluene 601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
19	pH		PH		8.1 pH		8.1 pH	8.1 pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	acenaphthene 201-469-6	83-32-9			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	fluorene 201-695-5	86-73-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	phenanthrene 201-581-5	85-01-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	anthracene 204-371-1	120-12-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	fluoranthene 205-912-4	206-44-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	pyrene 204-927-3	129-00-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
33	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
35	benzo[ghi]perylene 205-883-8	191-24-2			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
36	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		12 mg/kg	1.785	21.422 mg/kg	0.00214 %			
37	monohydric phenols P1186				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.0225 %		

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: WS04-02/11/2022-0.40

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

Sample details

Sample name:	LoW Code:
WS04-02/11/2022-0.40	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

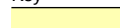
Determinands

Moisture content: **18% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg		<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				4.7 mg/kg	1.32	6.206 mg/kg		0.000621 %		
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				0.46 mg/kg	3.22	1.481 mg/kg		0.000148 %		
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.1 mg/kg	1.142	0.114 mg/kg		0.0000114 %		
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.2 mg/kg	1.462	13.446 mg/kg		0.00134 %		
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg		<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				7.1 mg/kg	1.126	7.994 mg/kg		0.000799 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	15 mg/kg		15 mg/kg		0.0015 %		
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				6.8 mg/kg	2.022	13.752 mg/kg		0.00138 %		
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.34 mg/kg	2.351	0.799 mg/kg		0.0000799 %		
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				28 mg/kg	2.469	69.14 mg/kg		0.00691 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg		<0.001 %		<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				7.8 pH		7.8 pH	7.8 pH			
			PH								
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				11 mg/kg	1.785	19.637 mg/kg	0.00196 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.0164 %		

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: WS06-02/11/2022-0.40

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

Sample details

Sample name:	LoW Code:
WS06-02/11/2022-0.40	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
17%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				2.1 mg/kg	1.32	2.773 mg/kg	0.000277 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				0.49 mg/kg	3.22	1.578 mg/kg	0.000158 %			
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				3.6 mg/kg	1.462	5.262 mg/kg	0.000526 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				3.1 mg/kg	1.126	3.49 mg/kg	0.000349 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	6.5 mg/kg		6.5 mg/kg	0.00065 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				2.7 mg/kg	2.022	5.461 mg/kg	0.000546 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				<0.25 mg/kg	2.351	<0.588 mg/kg	<0.0000588 %			<LOD
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				13 mg/kg	2.469	32.101 mg/kg	0.00321 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene 601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
15	toluene 601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
19	pH		PH		7.8 pH		7.8 pH	7.8 pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	acenaphthene 201-469-6	83-32-9			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	fluorene 201-695-5	86-73-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	phenanthrene 201-581-5	85-01-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	anthracene 204-371-1	120-12-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	fluoranthene 205-912-4	206-44-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	pyrene 204-927-3	129-00-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
33	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
35	benzo[ghi]perylene 205-883-8	191-24-2			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
36	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		4.2 mg/kg	1.785	7.498 mg/kg	0.00075 %			
37	monohydric phenols P1186				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.00814 %		

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: WS07-02/11/2022-0.30

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

Sample details

Sample name:	LoW Code:
WS07-02/11/2022-0.30	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30 m	
Moisture content:	
15%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: **15% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				7.3 mg/kg	1.32	9.638 mg/kg	0.000964 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.11 mg/kg	1.142	0.126 mg/kg	0.0000126 %			
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				12 mg/kg	1.462	17.539 mg/kg	0.00175 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				9.8 mg/kg	1.126	11.034 mg/kg	0.0011 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	22 mg/kg		22 mg/kg	0.0022 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				8.4 mg/kg	2.022	16.988 mg/kg	0.0017 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.43 mg/kg	2.351	1.011 mg/kg	0.000101 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				43 mg/kg	2.469	106.18 mg/kg	0.0106 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				8.4 pH		8.4 pH	8.4 pH			
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				0.13 mg/kg		0.13 mg/kg	0.000013 %			
		205-912-4	206-44-0								
27	pyrene				0.13 mg/kg		0.13 mg/kg	0.000013 %			
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				14 mg/kg	1.785	24.993 mg/kg	0.0025 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.0227 %		

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: WS07-02/11/2022-0.90

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

Sample details

Sample name:	LoW Code:
WS07-02/11/2022-0.90	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.90 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	• pH				8.3 pH		8.3 pH	8.3 pH		
			PH							
Total:								0%		

Key

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

Classification of sample: WS09-02/11/2022-0.90



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

Sample details

Sample name:	LoW Code:	
WS09-02/11/2022-0.90	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)
0.90 m		
Moisture content:		
13%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 13% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH PH				6.9 pH		6.9 pH	6.9 pH		
Total:								0%		

Key

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

Classification of sample: WS10-02/11/2022-0.10

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

Sample details

Sample name:	LoW Code:
WS10-02/11/2022-0.10	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.10 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.9%	
(no correction)	

Hazard properties

None identified

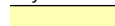
Determinands

Moisture content: 6.9% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				2.5 mg/kg	1.32	3.301 mg/kg	0.00033 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.13 mg/kg	1.142	0.149 mg/kg	0.0000149 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				2.8 mg/kg	1.462	4.092 mg/kg	0.000409 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
7	copper { dicopper oxide; copper (I) oxide }				2.8 mg/kg	1.126	3.152 mg/kg	0.000315 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	7.4 mg/kg		7.4 mg/kg	0.00074 %		
	082-001-00-6									
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	080-002-00-6									
10	nickel { nickel(II) carbonate }				3.7 mg/kg	2.022	7.483 mg/kg	0.000748 %		
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]							
11	selenium { nickel(II) selenite }				0.38 mg/kg	2.351	0.893 mg/kg	0.0000893 %		
	028-048-00-8	233-263-7	10101-96-9							
12	zinc { zinc sulphate }				7.8 mg/kg	2.469	19.261 mg/kg	0.00193 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH		PH		8.9 pH		8.9 pH	8.9 pH			
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				3.8 mg/kg	1.785	6.784 mg/kg	0.000678 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols		P1186		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.00699 %		

Key

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

Classification of sample: WS10-02/11/2022-0.60

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

Sample details

Sample name:	LoW Code:
WS10-02/11/2022-0.60	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.60 m	
Moisture content:	
11%	
(no correction)	

Hazard properties

None identified

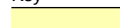
Determinands

Moisture content: **11% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				5.3 mg/kg	1.32	6.998 mg/kg	0.0007 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				8.5 mg/kg	1.462	12.423 mg/kg	0.00124 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				12 mg/kg	1.126	13.511 mg/kg	0.00135 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	10 mg/kg		10 mg/kg	0.001 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				9.6 mg/kg	2.022	19.415 mg/kg	0.00194 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.55 mg/kg	2.351	1.293 mg/kg	0.000129 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				30 mg/kg	2.469	74.079 mg/kg	0.00741 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				8.1 pH		8.1 pH	8.1 pH			
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				7.2 mg/kg	1.785	12.853 mg/kg	0.00129 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.0168 %		

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: WS11-02/11/2022-0.20

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

Sample details

Sample name:	LoW Code:
WS11-02/11/2022-0.20	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)
0.20 m	
Moisture content:	
19%	
(no correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				2.8 mg/kg	1.32	3.697 mg/kg	0.00037 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.18 mg/kg	1.142	0.206 mg/kg	0.0000206 %			
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				4.1 mg/kg	1.462	5.992 mg/kg	0.000599 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				7.1 mg/kg	1.126	7.994 mg/kg	0.000799 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	87 mg/kg		87 mg/kg	0.0087 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				6.3 mg/kg	2.022	12.741 mg/kg	0.00127 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.35 mg/kg	2.351	0.823 mg/kg	0.0000823 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				22 mg/kg	2.469	54.325 mg/kg	0.00543 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				210 mg/kg		210 mg/kg	0.021 %			
			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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH		PH		8 pH		8 pH	8pH			
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				4.2 mg/kg	1.785	7.498 mg/kg	0.00075 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols		P1186		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.0398 %		

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 It is highly unlikely that soils (generally a refractory matrix) will be classified as flammable at concentrations of 1.00% or less. (AGS, 2019). This property is thus disregarded as potentially flammable.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.021%)

Classification of sample: WS11-02/11/2022-0.70

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

Sample details

Sample name:	LoW Code:
WS11-02/11/2022-0.70	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)
0.70 m	
Moisture content:	
10%	
(no correction)	

Hazard properties

None identified

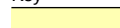
Determinands

Moisture content: **10% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				5.7 mg/kg	1.32	7.526 mg/kg	0.000753 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11 mg/kg	1.462	16.077 mg/kg	0.00161 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<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 compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	6.8 mg/kg		6.8 mg/kg	0.00068 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				11 mg/kg	2.022	22.247 mg/kg	0.00222 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.37 mg/kg	2.351	0.87 mg/kg	0.000087 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				28 mg/kg	2.469	69.14 mg/kg	0.00691 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				8.1 pH		8.1 pH	8.1 pH			
			PH								
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				8.4 mg/kg	1.785	14.996 mg/kg	0.0015 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.0171 %		

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: WS12-02/11/2022-0.40

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

Sample details

Sample name:	LoW Code:
WS12-02/11/2022-0.40	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

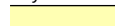
Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				2.8 mg/kg	1.32	3.697 mg/kg	0.00037 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	29.231 mg/kg	0.00292 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				9.4 mg/kg	1.126	10.583 mg/kg	0.00106 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	6.6 mg/kg		6.6 mg/kg	0.00066 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				18 mg/kg	2.022	36.403 mg/kg	0.00364 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.68 mg/kg	2.351	1.599 mg/kg	0.00016 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				29 mg/kg	2.469	71.61 mg/kg	0.00716 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene 601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
15	toluene 601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
16	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
19	pH		PH		7.7 pH		7.7 pH	7.7 pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	acenaphthene 201-469-6	83-32-9			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	fluorene 201-695-5	86-73-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	phenanthrene 201-581-5	85-01-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	anthracene 204-371-1	120-12-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	fluoranthene 205-912-4	206-44-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	pyrene 204-927-3	129-00-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
33	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
35	benzo[ghi]perylene 205-883-8	191-24-2			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
36	vanadium { divanadium pentaoxide; vanadium pentoxide } 023-001-00-8	215-239-8	1314-62-1		20 mg/kg	1.785	35.704 mg/kg	0.00357 %			
37	monohydric phenols P1186				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
Total:									0.0213 %		

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: WS12-02/11/2022-0.80

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

Sample details

Sample name:	LoW Code:
WS12-02/11/2022-0.80	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)
0.80 m	
Moisture content:	
17%	
(no correction)	

Hazard properties

None identified

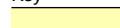
Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				2.3 mg/kg	1.32	3.037 mg/kg	0.000304 %			
	033-003-00-0	215-481-4	1327-53-3								
3	boron { diboron trioxide; boric oxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	23.385 mg/kg	0.00234 %			
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
7	copper { dicopper oxide; copper (I) oxide }				7.6 mg/kg	1.126	8.557 mg/kg	0.000856 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	5.1 mg/kg		5.1 mg/kg	0.00051 %			
	082-001-00-6										
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	080-002-00-6										
10	nickel { nickel(II) carbonate }				14 mg/kg	2.022	28.314 mg/kg	0.00283 %			
	028-010-00-0	222-068-2 [1] 240-408-8 [2] 265-748-4 [3] 235-715-9 [4]	3333-67-3 [1] 16337-84-1 [2] 65405-96-1 [3] 12607-70-4 [4]								
11	selenium { nickel(II) selenite }				0.55 mg/kg	2.351	1.293 mg/kg	0.000129 %			
	028-048-00-8	233-263-7	10101-96-9								
12	zinc { zinc sulphate }				24 mg/kg	2.469	59.263 mg/kg	0.00593 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<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								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
19	pH				8.1 pH		8.1 pH	8.1 pH			
			PH								
20	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
36	vanadium { divanadium pentaoxide; vanadium pentoxide }				17 mg/kg	1.785	30.348 mg/kg	0.00303 %			
	023-001-00-8	215-239-8	1314-62-1								
37	monohydric phenols				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
			P1186								
Total:									0.0177 %		

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

■ **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

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

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

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

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

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

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

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 21 Aug 2015

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

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

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

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

Data source date: 21 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

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

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

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

Data source date: 23 Jul 2015

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

■ **divanadium pentaoxide; 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 formally 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 formally 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 formally make this change to the MCL List].

Substance has therefore been self-classified.

■ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 % conc. < 3 % , Eye Irrit. 2; H319 1 % conc. < 3 % , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings

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 {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass

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. Worse 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 compounds with the exception of those specified elsewhere in this Annex (worst case)}

There is an insufficient quantity of Chromium VI available to stoichiometrically form Chromate Compounds, as such the next most likely worse-case species has been selected for assessment. The concentration of Chromium VI is noted to be less than the detection limit of the analytical test.

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

Reasonable case CLP selection as fulminate not likely to be present. Inorganic Mercury is more likely to be present. Dichloride is highly soluble and is unlikely to be present unless there are significant sources shown from Desk Study information.

nickel {nickel(II) carbonate}

Reasonable case CLP entry as halides, hexacyanoferrate, and sulfate are very soluble, thiocyanate is not likely to be present from industrial uses and is also soluble, insufficient Hexavalent Chromium to form the chromate species. Nickel Carbonate is largely insoluble and present in ceramics and potteries that may be present in Made Ground particularly.

selenium {nickel(II) selenite}

Reasonable case CLP compound unless Se is present in sufficient quantities to stoichiometrically form the Ni-Se compounds.

zinc {zinc sulphate}

There is an insufficient quantity of Chromium VI available to stoichiometrically form Chromate Compounds, as such the next most likely worse-case species has been selected for assessment. The concentration of Chromium VI is noted to be less than the detection limit of the analytical test.

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide]

vanadium {divanadium pentaoxide; vanadium pentoxide}

worst case CLP species

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2023.25.5511.10206 (25 Jan 2023)
HazWasteOnline Database: 2023.25.5511.10206 (25 Jan 2023)

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



CIVIL | STRUCTURAL | GEOTECHNICAL & ENVIRONMENTAL | TRAFFIC AND TRANSPORT

Lawrence House | 6 Meadowbank Way | Nottingham | NG16 3SB

01773 535555 | design@hspconsulting.com | www.hspconsulting.com