PHASE II GEO-ENVIRONMENTAL ASSESSMENT REPORT

FINAL REV A

Joseph Norton SEMH School, Huddersfield

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hsp consulting

CIVIL | STRUCTURAL | GEOTECHNICAL & ENVIRONMENTAL | TRAFFIC AND TRANSPORT

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

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

Joseph Norton SEMH School
Land off Deighton Road
Deighton
Huddersfield
HD2 1JP

Phase II Geo-Environmental Assessment Report

This report was produced by HSP Consulting Engineers Ltd for Frank Shaw Associates Ltd on behalf of Kirklees Council as the Phase II Geo-environmental Assessment Report for the former Deighton Centre (off Deighton Road) to identify possible areas of contamination and provide an assessment of potential ground related development constraints.

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

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Executive Summary

HSP Consulting Engineers Ltd has been commissioned by Frank Shaw Associates Ltd on behalf of Kirklees Council 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 should they be required.

The site is located off Deighton Road, land formerly occupied by the Deighton Centre. The approximate National Grid Reference for the centre of the site is (NGR) 415904, 419561.

The ground investigation comprised ten windowless sample boreholes to a maximum depth of 4.22m and eight machine excavated trial pits to a maximum depth of 3.20m begl. Three of the trial pits were utilised for infiltration testing. Three rotary boreholes were undertaken between the 24th and 26th April 2023. The geology of the site generally comprises Made Ground to variable depth overlying bedrock deposits of the Pennine Lower Coal Measures. No evidence of coal seams/worked seams have been recorded although fractured/broken ground has been recorded from 3.2m to 5.2m begl within RO02, where flush returns reduced before returning to consistent levels.

Traditional strip or pad foundations could be utilised within the firm to stiff cohesive deposits in the central and southern site areas at minimum depths of 0.75m begl to a net allowable bearing pressure of 100kN/m^2, increasing to 200kN/m^2 at 2.00m begl. However, in part the proposed building footprint overlies significantly deeper Made Ground and soft cohesive deposits that are not considered suitable for a traditional foundation. Due to these constraints, traditional foundations are unlikely to be feasible within this area and a piled foundation solution should be considered with piles extending into the competent mudstone strata.

A suspended ground floor slab is recommended. It may be possible to adopt a ground bearing floor slab where existing Made Ground materials and soft cohesive deposits are replaced with engineered fill below the proposed building footprint.

The natural soils encountered are generally considered appropriate to adopt a basic Design Sulphate Class of DS-1 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-1s. Should Made Ground materials be retained on site and concrete foundations / slabs come into contact with the material, it is considered appropriate to adopt a basic Design Sulphate Class of DS-3 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2s, based on worst case results within Made Ground material.

Infiltration testing was undertaken as part of the ground investigation to assess the suitability of the soils for surface disposal by infiltration (soakaways). The results of the preliminary soakaway testing suggest that the site will be suitable for soakaway drainage. Any infiltration drainage utilised within the scheme will need to take into consideration the elevated PAH and lead identified at some locations within the shallow Made Ground.

The screening process for on-site human health receptors show that the GACs, representative of minimal risk for a residential with home grown produce setting were exceeded for lead in one location and polyaromatic hydrocarbons (PAHs) across seven locations from samples within the Made Ground. Loose amosite fibres were recorded within one Made Ground Sample. Laboratory analysis undertaken to quantify the amount of asbestos in soils has reported the mass to be <0.001% by weight within the sample.

In areas where buildings or hardstanding are proposed the risk will be negligible as this effectively acts as capping and breaks the Source - Pathway - Receptor linkage. Subject to proposed levels, HSP recommend that for all soft landscaped areas, a cover system should be provided, likely comprising a minimum 300mm of suitable topsoil / subsoil. In areas where growing provisions are required, i.e. farm / orchard, gardens, a minimum depth of 600mm of suitable topsoil / subsoil should be provided (subject to landscape architect requirements).

Ground gas monitoring has been undertaken on six occasions. Comparison of the results with Table 2 of BS8485:2015 + A1:2019 indicates that the site falls into a Characteristic Situation 1 and therefore, ground gas protection measures will not be required.

Testing to the Water UK Suite is beyond the scope of the investigation. However, the use of plastic 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 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 planning application. The brief provided by Kirklees Council indicates a new build school for children and young people with Social, Emotional and Mental Health needs at the former Deighton Centre site.

1.2 Client Brief & Scope

HSP Consulting Engineers Ltd has been commissioned by Frank Shaw Associates Ltd on behalf of Kirklees Council 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 planning application.

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 principals 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 between the 17th – 18th November 2022 (windowless sampling) and between the 6th – 8th February 2023 (trial pitting and infiltration testing) and additional three rotary boreholes undertaken between the 24th and 26th April 2023.

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, Joseph Norton SEMH School, Huddersfield - Phase I Geo-Environmental Desk Study Report, December 2022, Ref: HSP2022-C4164-G-GPI-1137. (Ref 1.)

This Phase II Geo-environmental Assessment should be read in conjunction with the findings of the Phase I Desk Study referenced above.

2. Review of Existing Information & Geoenvironmental Setting

2.1 The Site

2.1.1 Location

The site is located in Deighton, a district located in the northeast of Huddersfield. The site is located off Deighton Road, land formerly occupied by the Deighton Centre. The approximate National Grid Reference for the centre of the site is (NGR) 415904, 419561. A Site Location Plan is included in Appendix I.

2.1.2 Description

The site is irregular in shape and is approximately 2.07Ha in area. Access is gained off Deighton Road in the south of the site.

The site was formerly occupied by the Deighton Centre, which was demolished in 2013 and is therefore now vacant land. Demolition drawings have been provided by the client. The 'Site Finishes Plan' (Drawing Ref: SE05) indicates the following activities were to be undertaken during demolition:

- Locate, disconnect and seal all redundant drains and connections (Drawing SE06 shows the disconnections of water feed, electricity and gas).
- Demolish identified buildings including removal of perimeter pathways, paving areas, signs, retaining walls, ramps, steps and hardstanding areas – down to ground level including excavation of floor slab and foundations.
- Use suitably crushed demolition material to fill any below ground voids (presumably basement areas)
- Remove all excess demolition material off site
- Introduce 150mm layer of topsoil of former building footprint and seed.

No asbestos removal documentation has been provided.

It is also noted that that no post-demolition documentation has been provided.

While the building footprints have been removed in their entirety, the former access road and car parks remain; which generally appeared in good condition. Scrubland / overgrown greenspace occupies the former school area. A number of informal paths cut across this area, which are understood to be used by the general public. A public right of way footpath is located adjacent to the southwestern / west site boundary.

In the west of the site, a 'spring' was observed with water flowing down the bank and northwards down the site. The source of the water is unknown at this stage.

Topographically, the site lies towards the top of a natural ridge / slope. In regard to the wider area, the land to the west and southwest is at a similar level, whilst the land to the north, east and southeast falls away from the site. The topographical survey indicates the highest point on site is in the south, at approximately 136.50m AOD. The site falls away to the north, with

the lowest point recorded approximately 128.80m AOD (level difference of approximately 7.50m) and also falls to the east (towards the playing fields). Sections provided with the topographical drawing show the profile from the far west of the site and across the playing fields in the east. The section shows the far west of the site at approximately 133.25m AOD, with the most eastern point of the playing fields at approximately 105.75m AOD.

Although the levels across the playing field slope to the east, it is clear that the area has been terraced historically to create a suitable playing surface.

Mature / semi mature trees are present along the southern, western and northern site boundaries, with sporadic trees / shrubs within the central areas.

The site is generally unbound around the perimeter, with the exception of the southwest boundary with the Christ Church CE Academy; which consists of green palisade fencing. The east of the site is unbound, allowing access to the adjacent playing fields. The north of the site is bound by a woodland, which slopes down to the residential dwellings off Tenter Hill Lane.

2.1.3 Surrounding Land Use

The main features of interest identified are:

North:	Woodland / Residential dwellings.
East:	Playing Fields with residential dwellings beyond.
South:	Deighton Sports Arena, Deighton Road and residential dwellings beyond.
West:	Christ Church CE Academy and residential dwellings beyond.

2.1.4 Proposed End Use

Development plans at present show a new school in the north / centre of the site, with a range of external uses including parking / drop off, farm area, forest school, habitat area and Multi-Use Games Area (MUGA). It is not known whether development plans have been finalised at this stage. The proposed development plan is included within Appendix II.

2.2 Geology

2.2.1 Made Ground

The BGS mapping indicates an area of Made Ground (undivided) in the north of the site. Made Ground should be expected across the majority of the site where development has occurred (i.e. former buildings, existing access roads and car parks).

The playing fields to the east of the site are also recorded as Made Ground (undivided), presumably associated with the landfilling.

2.2.2 Superficial Deposits

The BGS mapping indicates the site is devoid of superficial deposits.

2.2.3 Bedrock Geology

BGS bedrock mapping indicates the site is underlain by mudstone, siltstone and sandstone of the Pennine Lower Coal Measures. Areas of sandstone are recorded in the southwest of the site and partially in the extreme northeast. The deposits are described by the BGS as *'Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.'*

2.2.4 Coal Mining

The Published Coal Authority and geological information indicates that the potential for unrecorded probable workings at shallow depth (within 30m) of the surface are limited to the current access road within the southeast and therefore this section of the site is within Coal Authority High Risk Development Area. The remainder of the site indicates the potential for unrecorded probable shallow workings to be moderate, at a depth of 30m – 100m from surface and therefore this section of the site is not within the Coal Authority High Risk Development Area.

2.3 Local Authority Health Officer Communication

A Contaminated Land Enquiry was placed with Kirklees Council Contaminated Land Team on the 13th December. The following information has been provided.

- No determinations have been made by this Service under the provisions of the Environmental Protection Act 1990 regarding the classification of contaminated land on this site or sites in the neighbouring vicinity.
- No site investigation reports or remediation strategies for the site of interest have been submitted to this service for consultation.
- KC Ref 133 (The Deighton Centre, Deighton) lies approximately adjacent from the site of interest. Records suggest that in 1965 this was used as a spoil heap. The site was recorded as playing fields in 2009. There are no records of a waste disposal licence having been issued for this site. The waste type, depth, quantity, and date of filling is unknown. It is unlikely that there were any landfill gas and leachate controls installed here. Shallow spike surveys carried out on the tipped area between 1989 and 2003. Methane results between March 1989 and November 1993 range between 1.0% and 25.0% volume in air. Four results from September 1994, March 1995, May 1995 and July 2003 indicate methane concentrations of less than 0.1% and carbon dioxide between 4.0% and 0.5% (decreasing over time).

The correspondence is included within the Phase I Desktop Report.

2.4 Pertinent Site Sensitivity Information

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

- Historical mapping shows the site as undeveloped with Tenters (cloths stretched out to dry) on the earliest mapping, with no further changes shown until 1957 where Deighton Secondary School is shown. This remains until the buildings were demolished in 2013. The site remains vacant at present.
- Historically the surrounding land use has been undeveloped to the north and east, with development shown to the south and west. A pit is shown on the land to the east from 1957 before being shown as playing fields from 1966. Other notable industrial land uses include a Dye Works 110m southeast of the site and a Laundry 200m west of the site.
- An area of Made Ground is recorded in the north of the site on the BGS mapping. No superficial deposits are recorded. Bedrock geology of the Pennine Lower Coal Measures are expected beneath the site.
- The site is located within a coal mining area as defined by the Coal Authority. No past underground mining has been recorded, but unrecorded shallow workings are considered to be probable.
- The bedrock geology is classified as a Secondary A Aquifer. The site does not lie within a source protection zone.
- The site is located within an area which has a low risk for radon. No radon protection measures are required for any new development.
- A small historical landfill is recorded in the north of the site, shown as a Refuse Tip on the 1966 mapping. In addition, the playing fields to the east of the site are shown as an Environment Agency historical landfill.

3. Fieldwork & Factual Information

The intrusive works to date were carried out on the 17th and 18th November 2022 (windowless sample boreholes) and between 7th to 8th February 2023 (trial pitting / infiltration testing). Three rotary boreholes were undertaken between the 24th and 26th April 2023.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 to date were positioned across the site to provide information for foundation design and obtain representative soil samples for geotechnical and geo-environmental analysis.

Following the windowless sample boreholes in November 2021, areas of deep Made Ground were targeted during the trial pitting exercise and subsequently by rotary boreholes.

Please note that the deeper boreholes utilised rotary open methodology with water as a flushing medium. With the exception of disturbed SPT samples, open hole methodology results in smalls fragments / change in flush colour which is utilised to determine the ground conditions.

The disturbed SPT samples were not obtained when the drillers believed they were drilling through competent sandstone material due to the risk of damage to the split spoon cone, and therefore a solid cone was utilised in these instances.

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	10	4.22	WS01 to WS10
Machine Excavated Trial Pits	5	3.20	TP01 – TP05
Infiltration Test Pits (Machine Excavated)	3	2.30	SK01 – SK03
TRL Probes	4	1.00	TRL01 – TRL04
Rotary Open Boreholes	3	15.43	RO01 – RO03

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) was carried out at 1.00m intervals in the windowless sample boreholes to a maximum depth of 4.22m begl. SPTs were undertaken within the rotary open boreholes where possible, generally at 1.00m intervals to 5.00m and every 1.50m thereafter to a target depth of 15.00m begl. 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).

Please note, within RO03, SPTs were not able to be undertaken between 1.00m and 4.00m due to the cobble / boulder sizes within the Made Ground material.

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:

- Natural Moisture Contents
- Plasticity Index

The laboratory testing is being undertaken by Professional Soils Laboratory PSL (UKAS accredited laboratory No.4043), accordance with BS 1377-2: 1990 using calibrated equipment specifically for British Standard. The results available 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-five 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	Sample Description	Exploratory Hole Location & Depth	Sample Description
WS01: 0.10m	MADE GROUND [1, 2, 3]	WS08: 1.00m	MADE GROUND [3, 4]
WS02: 0.20m	MADE GROUND [1, 3]	WS08: 3.00m	CLAY [4]
WS02: 1.00m	CLAY [4]	WS09: 0.10m	MADE GROUND [1, 2, 3]
WS03: 0.15m	MADE GROUND [1, 2, 3]	WS09: 0.50m	MADE GROUND [3]
WS03: 1.80m	CLAY [4]	WS09: 1.00m	CLAY [4]
WS04: 0.20m	MADE GROUND [1, 2, 3]	WS10: 0.15m	MADE GROUND [1, 2, 3]
WS04: 0.50m	MADE GROUND [5]	TP01: 0.10m	MADE GROUND [1, 2, 3]
WS05: 0.70m	CLAY [1, 4]	TP01: 0.50m	MADE GROUND [1, 3]
WS07: 0.30m	MADE GROUND [1, 2, 3]	TP02: 0.20m	MADE GROUND [1, 2, 3]
WS07: 0.70m	CLAY [1, 4]	TP02: 0.60m	MADE GROUND [1]
WS07: 2.50m	CLAY [4]	TP04: 0.20m	MADE GROUND [1, 2]

WS08: 0.30m	MADE GROUND [5]	TP05: 0.10m	MADE GROUND [1, 2]
WS08: 0.60m	MADE GROUND [1, 3]		

[1] HSP Standard Suite, [2] Organic Matter, [3] Asbestos Screen, [4] BRE Sulphate Suite [5] 10:1 Single Stage WAC

Table 2b – HSP Standard Chemical Analysis Suite

Metals	Cadmium	Chromium (III & VI)	Copper
	Lead	Mercury	Nickel
	Zinc	Vanadium	
Semi Metals and Non-metals	Arsenic	Boron	Selenium
	Antimony		
Others	pH	Moisture Content	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 23rd – November 2022 to 4th January 2023.

Additional analysis was undertaken from samples obtained during the trial pitting exercise by i2 Analytical (UKAS accredited, laboratory No. 4041) during the period 10th February – 22nd February 2023.

All of 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 bedrock deposits of the Pennine Lower Coal Measures. No superficial deposits are recorded.

3.4.2 Ground Conditions Encountered

The exploratory hole data indicates Made Ground of variable depths, associated with demolition and backfilled basements on site, underlain by bedrock deposits of the Pennine Lower Coal Measures. The strata encountered on site generally comprises:

Table 3 – Encountered Ground Conditions

Strata		Depth Range (mbegl)	Max Thickness (m)	Description
Anthropogenic	MADE GROUND	G.L – 0.40m	0.40	Grass overlying dark brown sandy gravelly clay (topsoil) with brick, aggregate, coal fragments, concrete, wood, slate, asphalt concrete
		G.L – 0.12m	0.12	Asphalt concrete
		0.10 – 2.70	1.90	Variable MADE GROUND comprising: - Dark brown sandy gravelly clay with brick, aggregate and coal fragments. Rare metal. - Yellow grey / brown clayey gravelly sand with brick, concrete, wood and sandstone. Occasional glass. - Grey brown sandy gravel with brick, concrete, flint, aggregate and plastic - Dark grey / black / red sandy gravel is asphalt concrete, brick, and concrete. Occasional ash.

		0.30 – <5.00	<4.70	Brown grey gravelly sand with cobbles and boulders of brick, concrete, asphalt, wire, metal, sandstone, rubber and ceramic. TP01 and RO03 (Former Basement)
Bedrock	PENNINE LOWER COAL MEASURES	0.60 – 3.00	2.40	Soft yellowish orange / greyish brown sandy gravelly CLAY with sandstone.
		0.15 – 3.00	1.70	Dense to very dense yellow / orange brown clayey gravelly SAND or GRAVEL with sandstone.
		0.80 – 2.40	1.50	Firm to stiff yellowish to greyish brown sandy gravelly CLAY with sandstone and mudstone.
		1.70 – 4.00	1.00	Extremely weak yellowish greyish brown weathered MUDSTONE.
		4.00 – 15.42	>11.42	Pennine Lower Coal Measures (MUDSTONE and SANDSTONE)

3.5 Groundwater Levels

Groundwater strikes were not recorded within the windowless samples boreholes or machine excavated trial pits. Groundwater levels have been recorded on six occasions within the ground gas monitoring installations, as detailed in the table below.

Table 4 – Groundwater Levels

Borehole No.	Installation Depth (m)	Monitoring Date and depth to groundwater (m)					
		01.12.22	09.12.22	20.12.22	06.01.23	09.01.23	07.02.23
WS01	3.05	2.05	2.05	2.10	1.95	2.02	1.98
WS03	2.05	1.43	1.48	1.25	1.15	1.30	1.85
WS07	4.05	4.00	4.00	4.00	3.98	4.00	3.96
WS10	3.05	2.70	2.82	2.80	2.30	2.65	Dry

3.6 Hazardous Ground Gas Monitoring

Ground gas monitoring installations were constructed within four of the windowless sample boreholes (WS01, WS03, WS07 & WS10). 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 436 Gas Analyser. Prior to its use a calibration check is performed against gas readings in air. 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 IX.

The results of the ground gas monitoring are discussed in Section 5.4 below.

3.7 Visual and Olfactory Evidence of Contamination

Ash was observed within Made Ground in WS07, between 0.12m and 0.45m begl. No other visual or olfactory evidence of contamination was noted during the intrusive works.

4. Geotechnical Assessment

4.1 Detailed Ground Model

For the purpose of this geotechnical assessment, the information gained from the windowless sample boreholes and machine excavated trial pits have been utilised. The exploratory logs are presented in Appendix III.

4.1.1 Made Ground

Made Ground was recorded across the site, which was expected given the demolition of the former Deighton Centre. Around the periphery of the site, the surface comprised asphalt concrete over sand / gravels of aggregate to a maximum depth of 0.45m begl. The depths of Made Ground across the former building footprint varied to depths between 0.50m and 3.20m begl. It is understood that a basement was formerly located in the north of the site, which is understood to have been backfilled with demolition material. A trial pit (TP01) was positioned in this area to confirm the depths of Made Ground. Made Ground was encountered to a depth of 3.20m, before the sides of the pit began to spall and the pit terminated.

A rotary borehole (RO03) was undertaken adjacent to the location of TP01 to try and determine the full extent of the basement. During the advancement of the borehole, the drillers noted a change of strata / flush colour change from approximately 4.50m begl. The SPT 'N' value of 50 and the core run time increasing at 5.00m begl indicate drilling through natural coal measures strata. The change in colour appeared to be consistent of that noted within the other rotary borehole positions, indicating natural bedrock deposits of the Pennine Lower Coal Measures. The extent of the Made Ground in area of the basement is therefore considered to vertically extend no further than 5.00m, although may be shallower. Excavation with a larger machine excavator would be required to fully determine the vertical and lateral extent of the basement area.

Within WS04 and WS04a, both exploratory positions refused within Made Ground material resembling demolition rubble. A machine excavated pit was undertaken adjacent encountering this material to a depth of 2.70m, comprising brown grey gravelly cobbly sand with brick, concrete, metal, plastic, wire and sandstone. This was underlain by natural bedrock strata.

4.1.2 Pennine Lower Coal Measures

Bedrock deposits were recorded from between 0.15m which generally comprised a firm becoming stiff yellowish orange brown sandy gravelly CLAY with frequent sandstone and mudstone. Softer clay deposits were encountered in the north of the site, exhibiting lower SPT N values but comprising the same material elsewhere on site. The CLAY generally graded into a extremely weak weathered MUDSTONE to a maximum depth of 4.00m. The base of the deposits were not penetrated.

Deeper rotary boreholes were undertaken to a maximum depth of 15.42m, with orange / grey Pennine Lower Coal Measures strata encountered to these depths.

No evidence of coal seams/worked seams have been recorded although fractured/broken ground has been recorded from 3.2m to 5.2m begl within RO02.

4.1.3 In-situ Testing and Assessment

A series of Standard Penetration Tests (SPT's) were undertaken within the boreholes. The following table summarise the N values at depth across the site within the natural strata for the windowless sample boreholes.

Table 5a – SPT N Values

Depth (m)	Range of 'N' Values	Mean 'N' Value	Description
1.00	5 - 50	28	COAL MEASURES (CLAY / SAND)
2.00	2 - 50	30	
3.00	6 - 50	32	
3.60 - 4.00	50	50	
5.00 – 5.20	50 (All SPTs refused from 5.00m onwards within the rotary open boreholes – 50 blows for less than 300mm penetration)		COAL MEASURES
6.50 – 6.70			
8.00 – 8.20			
9.50 – 9.70			
11.00			
12.50 – 12.70			
14.00 – 14.20			
15.00			

Seven plasticity index and moisture content tests have been undertaken in the laboratory on disturbed samples of the fine deposits obtained from the windowless sample boreholes. The results indicate compliance with the definition of soils of high (CI) plasticity after the classification system of BS5930: 2015 + A1:2020. The samples are considered to be of low volume change potential in accordance with the National House Building Council (NHBC) Standards, Chapter 4.2: 2007.

Table 6 - Plasticity and Volume Change Potential

Sample Ref:	Laboratory Material Descriptions	LL (%)	PL (%)	PI (%)	% passing 425µm	Modified PI (%)*	Soil Class	MC (%)
WS03: 1.00m – 1.30m	Brown very gravelly sandy CLAY	45	22	23	74	17	CI	17
WS05: 0.80m – 1.00m	Brown slightly gravelly sandy CLAY	38	21	17	97	16.5		16
WS07: 1.50m – 1.80m	Brown very gravelly very sandy CLAY	36	19	17	71	12		16
WS07: 2.70m – 3.00m	Brown slightly gravelly sandy silty CLAY	37	21	16	98	15.7		18
WS08: 2.70m – 3.00m	Brown gravelly sandy CLAY	38	22	16	87	13.9		22
WS09: 1.80m – 2.00m	Brown gravelly sandy CLAY	37	19	18	89	16		17
WS10: 0.70m – 1.00m	Brown gravelly sandy CLAY	38	21	17	88	15		26

The geotechnical laboratory results are included in Appendix VI.

4.2 Earthworks

The topographical survey indicates the highest point on site is in the south, at approximately 136.50m AOD. The site falls away to the north, with the lowest point recorded approximately 128.80m AOD (level difference of approximately 7.50m) and also falls to the east (towards the playing fields).

Parts of the site are expected to have been terraced / levelled to accommodate the former building footprint and externals.

Given the level changes across the site, it is considered that earthworks are likely to be required to create a level development platform. Natural near surface soil arisings generated on site may 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 Foundations

Development plans indicate a new build school on site. Proposed loadings and levels have not been provided at this stage. Based on the ground conditions encountered, the general downward succession was identified as Made Ground recorded to shallow depths (<0.90m begl)| across the majority of the site area. Deeper Made Ground (up to a maximum extent of 5.00m begl) was recorded in the north of the site associated with backfilling of the former basement. A further area of deep Made Ground (proven to 2.70m begl) is located in the west of the site. The Made Ground overlies the bedrock deposits of the Pennine Lower Coal Measures which are recorded as firm becoming stiff cohesive deposits in the central and southern area and as soft cohesive deposits from 0.60m to 3.50m begl in the north. A lower SPT 'N' value of 8 was recorded within RO01 at 1.20m, with the number of blows increasing with depth.

No evidence of coal seams/worked seams have been recorded although fractured/broken ground has been recorded from 3.2m to 5.2m begl within RO02, where flush returns reduced before returning to consistent levels.

The present scheme (2. L-2352-SKE-6000-Spacial Arrangement Plan_R05, dated 7th Mach 2023) indicates the proposed building footprint will be partly on firm to stiff cohesive deposits (central/western and southern) and partly on areas of deeper Made Ground and soft cohesive deposits (north).

Although the depth of the former basement was approximated, the lateral extent of the backfill in the north are unknown and further areas of deeper Made Ground can't be discounted.

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

Traditional strip or pad foundations could be utilised within the firm to stiff cohesive deposits in the central and southern site areas at minimum depths of 0.75m begl to a net allowable bearing pressure of 100kN/m^2, increasing to 200kN/m^2 at 2.00m begl to limit total settlements to less than 25mm and differential settlements to acceptable limits. As mentioned above, lower strength soils were observed within RO01 (SPT 'N' Value of 8 at 1.20m) and therefore some localised deepening will be required where softer soils are encountered on site. However, in part the proposed building footprint overlies significantly deeper Made Ground and soft cohesive deposits that are not considered suitable for a traditional foundation. Due to these constraints, traditional foundations are unlikely to be feasible within this area and a piled foundation solution should be considered with piles extending into the competent mudstone strata encountered from 4.00m begl. Any piling solution would need to be designed and warranted by a specialist subcontractor.

An alternative solution would be to excavate the existing Made Ground materials and soft cohesive deposits below the proposed building footprint and replace with engineered fill to an appropriate specification to limit long term settlements. This method would provide an allowable bearing pressure to that achievable by the engineered fill following placement.

Should development plans alter, an engineer from HSP should be consulted and foundation assessment revised.

Foundations (and ground floor slabs) should be designed in accordance with NHBC Standards Chapter 4.2 Building near Trees (Ref. 9) where foundations are within influencing distance of proposed or existing trees in accordance with the requirements for soils of low volume change potential.

4.4 Ground Floor Slab

Based on the current layout, the proposed building footprint will be located within areas where the depth of Made Ground is in excess of 600mm, and therefore a suspended floor slab is recommended. It may be possible to adopt a ground bearing floor slab where existing Made Ground materials and soft cohesive deposits are replaced with engineered fill below the proposed building footprint, providing placement and compaction of any fill material is in accordance with the relevant earthworks specification and testing to confirm compliance to verify the fill materials once the earthworks are completed.

Further confirmation should be sought at detailed design stage once the final layout, levels and type of foundation have been confirmed.

4.5 Excavations

Excavations to proposed formation level for new foundations and infrastructure should be feasible using standard excavation plant and equipment. Random and potentially severe falls

should be anticipated from the faces of near vertically sided unsupported excavations carried out at the site. TP01 was excavated to 3.20m where Made Ground material (demolition) was encountered and the sides of the pit were spalling from 1.00m depth.

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.

No groundwater was encountered during the ground investigation, however, it should be noted that groundwater levels may vary due to seasonal variations or other effects. Traditional sump and pump dewatering is likely to be sufficient for any groundwater ingress encountered.

4.6 Concrete Classification

The results of sulphate and pH testing carried out on selected soil samples 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 'brownfield' location with static groundwater for the purposes of the concrete classification.

The bedrock geology of the Coal Measures has the potential for pyrite to be present which has been considered in the below assessment.

The natural soils encountered are generally considered appropriate to adopt a basic Design Sulphate Class of DS-1 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-1s.

Should Made Ground materials be retained on site and concrete foundations / slabs come into contact with the material, it is considered appropriate to adopt a basic Design Sulphate Class of DS-3 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2s, based on worst case results within Made Ground material.

4.7 Pavement Design

The TRL (Transport Research Laboratory) Dynamic Cone Penetrometer (DCP) tests were undertaken at four locations to a maximum depth of 1.00m begl. The TRL DCP probe is used for rapid in-situ measurement of the subgrade strata, which are converted to equivalent CBR values. Where layers have different strengths, the boundaries can be identified and an equivalent CBR value can be calculated for each layer. The unit incorporates an 8kg weight with a drop of 575mm, and a 20mm diameter cone fitted to the end of the shaft, allowing measurements to be made down to a depth of approximately 1.00m.

TRL01 only encountered variable Made Ground materials to a refusal depth of 0.58m. The remaining TRL02 – TRL04 encountered Made Ground overlying natural strata. For the purpose of this exercise, the variable Made Ground results have been discounted.

The natural strata was encountered from depths of 0.30m and 0.60m begl and was noted as predominately gravelly/sandy clay or clayey gravelly sand The CBR% calculated within the natural strata ranged between 16-17%. Due to the gravel content within the natural strata, the TRL probe results can't be relied on for design and should be used as a guide only.

Once final proposed development layout plans and levels are known, it is recommended in-situ CBR testing is conducted in areas of any proposed roads or car parking to confirm a value for design.

The results from the TRL Probes can be found within Appendix VII.

4.8 Infiltration Drainage

Infiltration testing was undertaken as part of the ground investigation to assess the suitability of the soils for surface disposal by infiltration (soakaways). The testing was undertaken at the site between the 7th and 8th February 2023 at three locations. Machine excavated pits were advanced to depths between 1.30m and 2.30m begl. The tests were conducted in accordance with BRE Digest 365 (2016 - Ref 20) with the exception of SK02 that was undertaken twice due to time constraints.

The calculated infiltration rates from the testing range between 3.57 x 10^{-4} m/s and 9.99 x 10^{-5} m/s within SK01 and SK03. SK02 was noted to comprise more clay content, with infiltration rates ranging between 1.41 x 10^{-5} m/s and 1.52 x 10^{-6} m/s The results of the preliminary soakaway testing suggest that the site will be suitable for soakaway drainage.

Any infiltration drainage utilised within the scheme will need to take into consideration the elevated PAH and lead identified at some locations within the shallow Made Ground.

The infiltration test certificates can be found within Appendix VIII.

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, 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 a school environment the standard exposure scenario of residential without home grown produce is usually used to identify potential exposure pathways for human health receptors. However, given the provision for planting on the proposed development plan (farm / gardens), the standard exposure scenario of residential with home grown produce has been used. Controlled water, flora and fauna and property receptors have also been included within the CSM.

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

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. Profiling is considered appropriate for the majority of samples.

5.2 Assessment of Soil Analysis Results

Twenty-five samples, as detailed in section 3.3.2, were scheduled for analysis from the development area. Seventeen 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, representative of minimal risk for a residential with home grown produce setting were exceeded for lead in one location and polyaromatic hydrocarbons (PAHs) across seven locations from samples within the Made Ground.

Details of the exceedances can be seen in Table 7 below. The results for the remaining contaminants of concern were below the screening criteria for individual contaminant concentrations.

Table 7 – GAC Exceedances – residential with home grown produce

Contaminant	GAC (mg/kg)	No. of exceedances	Concentration (mg/kg), sampling location and depth (m)
Lead	200 [2]	1	380 – WS10 0.15m
Benzo(a)pyrene (surrogate marker)	5.0 [3]	7	24.0 – WS01: 0.10m
			98.0 – WS03 0.15m
			20.0 – WS04: 0.20m
			8.7 – WS09 0.10m
			13.0 – TP01: 0.10m
			12.0 – TP04 0.20m
			12.0 – TP05: 0.10m
Naphthalene	2.3 [1]	1	3.3 - TP04: 0.20m
Benzo(a)anthracene	7.2 [1]	2	11 - TP04: 0.20m 11 - TP05: 0.10m
Benzo(a)pyrene	2.2 [1]	2	12 - TP04: 0.20m 12 - TP05: 0.10m
Dibenzo(a,h)anthracene	0.24 [1]	2	1.4 - TP04: 0.20m 1.2 - TP05: 0.10m

[1] S4UL, [2] C4SL [3] C4SL (surrogate marker approach)

In addition, thirteen soil samples were screened for asbestos. Loose amosite fibres were recorded within TP01 at 0.50m begl, with made ground demolition materials. Laboratory analysis undertaken to quantify the amount of asbestos in soils has reported the mass to be <0.001% by weight within the sample.

No asbestos was identified in the remaining samples.

5.3 Human Health Mitigation

The concentration of lead and PAHs recorded at the site are considered to pose a potential risk to the proposed end users and construction workers.

The exceedances were encountered across eight locations within Made Ground material identified between ground level and 0.40m begl. It is therefore considered that the Made Ground on site is not suitable for the proposed end use and that remediation will be required in the form of a cover system for all soft landscaped areas.

In areas where buildings or hardstanding are proposed the risk will be negligible as this effectively acts as capping and breaks the Source - Pathway - Receptor linkage.

Subject to proposed levels, HSP recommend that for all soft landscaped areas, a cover system should be provided, likely comprising a minimum 300mm of suitable topsoil / subsoil. In areas where growing provisions are required, i.e. farm / orchard, gardens, a minimum depth of 600mm of suitable topsoil / subsoil should be provided (subject to landscape architect requirements).

Made Ground topsoil / subsoils may be suitable to raise levels beneath soft landscaped areas, providing a suitable break layer is provided between the material and the proposed cover system.

It is considered that all topsoil required for the proposed development will require importing. Any topsoil imported will need to be compliant with BS: 3882:2015 Specification for Topsoil (Ref 21) and suitable for use.

It should be noted that levels may dictate the need to remove made ground materials to an appropriately licensed waste management facility.

Asbestos was identified within a single Made Ground soil sample. Any work on the site which will potentially disturb the made ground (excavations, vehicle movements etc) should be assessed. Mitigation should be adopted through site specific risk assessments and working methodologies (Control of Asbestos Regulations, 2012) and have the appropriate controls in place to limit any exposure to site workers and surrounding land users.

A Remediation Strategy detailing the above and subsequent verification with sampling, analysis and reporting will be required.

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.

All construction and maintenance workers operating at the site should be advised of the potential for contact with elevated concentrations of lead / PAHs and the potential for asbestos containing materials on site. Appropriate health and safety precautions should be adopted during any excavation works to avoid exposure to 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

Exceedance of lead and PAHs have been recorded within shallow Made Ground materials. The potential for leaching contaminants is considered limited within the underlying Lower Coal Measures which have recorded predominately fine deposits with occasional granular lenses grading into a mudstone. The closest surface water course is located 107m north and the

underlying Coal Measures are classified as a Secondary A aquifer. On this basis the risk posed to controlled waters is considered very low.

5.5 Ground Gas Risk Assessment

Six ground gas monitoring visits have been undertaken within the windowless borehole installations over a nine week period in order to obtain an indication of the ground gas regime at the site. The atmospheric pressures ranged between 1003mbar and 1037mbar.

The results of monitoring to date indicate that methane has not been recorded above the limits of detection. Carbon dioxide has been recorded at concentrations up to a maximum 3.0% by volume in air within WS10. Steady state gas flows have been recorded between 0.3 – 0.6l/hr. The worst case of 0.6l/hr has been used for this assessment.

The monitoring data aligns with information provided by Kirklees regarding the landfill adjacent to the site, with shallow spike surveys carried out with results from September 1994, March 1995, May 1995 and July 2003 indicating methane concentrations of less than 0.1% and carbon dioxide between 4.0% and 0.5% (decreasing over time). See the Phase I Desktop Report (Ref. 1) for further details.

From the results above, the maximum steady state gas screening value for the site is 0.018 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 15) and CIRIA Document C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings' (Ref 16). Comparison of these results with Table 2 of BS8485:2015 + A1:2019 indicates that the site falls into a Characteristic Situation 1 and therefore, ground gas protection measures are not required.

The results of the ground gas monitoring can be found in Appendix IX.

5.6 Water Supply

The environmental testing for the site has been 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. 19).

Testing to the Water UK Suite is beyond the scope of the investigation. However, it is noted that natural ground occurs at shallow depths (from 0.70m begl) across the majority of the site and there is no measured indicative organic contamination (petroleum hydrocarbons, phenols) that is likely to be detrimental to the use of plastic water supply pipes within the natural soils tested.

The use of plastic 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 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

The results of the chemical testing have been assessed using web-based software for classifying hazardous waste, HazWasteOnline™. Testing has been undertaken on the made ground materials and on limited samples of the underlying natural clay. The results indicate the material is likely to be classified non-hazardous waste with the exception of one sample, TP04 – 0.20m begl, which is likely to be classified as Hazardous. The results are included in Appendix X.

Two waste acceptance criteria (WAC) tests were also undertaken on Made Ground samples from across the site.

The sample taken from WS04 – 0.50m is recorded at the inert threshold for Total Organic Carbon content (TOC). However, Dissolved Organic Carbon at C_0 is at a suitable level and therefore the material is considered to Pass this classification.

The sample taken from WS08 – 0.30m exceeds the threshold for Total PAHs and therefore fails the inert threshold.

Loose amosite fibres were recorded within TP01 at 0.50m begl, with made ground demolition materials. Laboratory analysis undertaken to quantify the amount of asbestos in soils has reported the mass to be <0.001% by weight within the sample and therefore the classification remains Non-Hazardous.

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.

The decision of the disposal facility to accept/reject the waste is final and there is no obligation for any facility to accept the waste.

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 8 - Updated Conceptual Site Model.

Source	Pathway	Receptor	Consequence	Probability	Risk	Comments
On Site **S1:** Historical and Contemporary land use: Made Ground associated with former buildings on site and their demolition.	**P1:** Human uptake pathways	**R1:** End Users	Medium	Likely	Moderate	The screening process for on-site human health receptors show that the GACs, representative of minimal risk for a residential with homegrown produce setting, were exceeded within the shallow Made Ground soils. The risk to end users and proposed flora / fauna is considered to be MODERATE. In areas where buildings or hardstanding are proposed the risk will be negligible as this effectively acts as capping and breaks the Source - Pathway - Receptor linkage. In areas of soft landscaping, a cover system will be required including topsoil which would need to be compliant with BS:3882:2015 Specification for Topsoil. A remediation statement and subsequent verification will be required.
		R2: Construction and Maintenance workers				
	P5: Root uptake.	**R5:** Proposed Flora and fauna	Mild	Unlikely	Very Low	
	P2: Horizontal and vertical migration of mobile contaminants through potentially permeable soils and rocks.	**R3:** Controlled Water and Groundwater	Mild	Unlikely	Very Low	Exceedance of lead and PAHs have been recorded within shallow Made Ground materials. The potential for leaching contaminants is considered limited within the underlying Lower Coal Measures which have recorded predominately fine deposits with occasional granular lenses grading into a mudstone. The closest surface water course is located 107m north and the underlying Coal Measures are classified as a Secondary A aquifer. On this basis the risk posed to controlled waters is considered VERY LOW
	P3: Underground services and foundations could be potentially directly affected by the presence of contaminated soils or groundwater	**R4:** Services and structures	Medium	Unlikely	Low	Testing indicates 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-1s within natural soils. Within Made Ground materials, a Design Sulphate Class of DS-3 together with an Aggressive Chemical Environment for Concrete (ACEC) of AC-2s will be required. Testing to the Water UK Suite is beyond the scope of the investigation. However, it is noted that natural ground occurs at shallow depths (from 0.70m begl) across some areas of the site. The use of plastic 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 water supply pipe route(s) have been confirmed.
Off Site **S2:** Historical & Contemporary Land Use: Agricultural Land, residential development, Laundry, Dye Works	**P2:** Horizontal and vertical migration of contaminants through potentially permeable soils and rocks	**R1:** End Users	Minor	Unlikely	Very Low	The potential sources of off-site contamination are considered to be limited and the pathway unlikely. The risk from associated from off-site sources is considered to be VERY LOW.
On and Off Site Gas Sources **S3:** Ground Gases	**P4:** Vertical and lateral migration of ground gases and/or vapour.	**R1:** End Users	Minor	Unlikely	Very Low	Ground gas monitoring to date has confirmed a Classification of a Characteristic Situation 1. Ground gas mitigation is not considered to be required for any new buildings. The risk is considered to be VERY LOW.

6. Development Constraints

The following development constraints have been identified and should be considered further;

6.1 Soft Strata and Deep Made Ground

Low SPT 'N' values have been recorded in the north of the site, in natural and Made Ground Strata. In addition, deep Made Ground has been identified in areas across the site, including where the former basement of the Deighton Centre was located. Traditional strip / pad foundations are unlikely to be suitable in the areas where soft strata / deep Made Ground have been identified.

It is recommended the vertical and lateral extent of the former basement is confirmed utilising a larger excavator to dig trenches. The trench sides would possibly require supporting where loose made ground causes the pit sides to spall.

6.2 Elevated level of contaminants

The screening process for on-site human health receptors show that the GACs, representative of minimal risk for a residential with home grown produce setting were exceeded for lead in one location and polyaromatic hydrocarbons (PAHs) across seven locations. The soils on site are not considered to be suitable for use within an educational facility setting. In areas where buildings or hardstanding are proposed the risk will be negligible as this effectively acts as capping and breaks the Source - Pathway - Receptor linkage. In soft landscaped areas, a cover system should be provided.

A Remediation Strategy detailing the above and subsequent verification with sampling, analysis and reporting will be required.

7. References

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23. Waste Classification: Guidance on the Classification and Assessment of Waste (v1.2.GB 2021) – Technical Guidance WM3.

Appendix I

DO NOT SCALE

NOTES:

N

Approximate Red Line Boundary

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

CLIENT:
Frank Shaw Associates Ltd

PROJECT:
Former Deighton Centre

TITLE:
Location Plan

SCALE@SIZE :	ISSUE:
NTS	
DESIGN/DRAWN : MK	DATE: Nov 2022
PROJECT No: C4614	DRAWING No: 501

Appendix II

BB104 Calculation		Drawn on Plan	
Hard Outdoor PE	332 m²	as per BB104 MUGA guideline	593 m²
Hard informal and social area	864 m²	Hard informal and social area	864 m²
Soft informal and social area	864 m²	Lower Years Passive Space	400 m²
		Upper Years Passive Space	400 m²
		Class Gardens	815 m²
		Farm	1900 m²
Habitat	332 m²	Habitat/ Forest School*	5524 m²
Float	3688 m²	Float	3688 m²
		Building	2852 m²

* incl. Entrance Orchard area

Farm location:

- The location would be part in sun and part shaded - pending further solar studies there should be plenty of sun for raised beds / crops
- There is a natural relationship with existing natural habitats and the proposed Security was, the location isn't too exposed to the public or car park
- Access would be good and shared for deliveries with the kitchen

Rev	Amendments	Date	Drwn	Chkd
05	Updated building	07.03.23	TK	PO
04	Revised layout	03.03.23	TK	PO
03	Revised layout	02.03.23	TK	PO
02	Revised layout	21.02.23	TK	PO
01	First Issue	16.02.23	TK	PO

Project
Kirklees SEMH School, Deighton

Drawing Title
Spacial Arrangement Plan

Project No.
2352

Scale @ A3
1:750

Project Status
For Approval

Drawing No.
L-2352-SKE-6000

Revision
05

London 0203 924 9888
Newcastle 0191 24 24 224
York 01904 925 888
colour-udl.com
colour

Appendix III

Borehole Log

Borehole No. **WS01**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415922.00 - 419504.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	TJ		0.30			MADE GROUND: Grass overlying dark brown slightly gravelly sandy clayey topsoil. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, aggregate and coal.
		0.60	TJ		0.45			MADE GROUND - Dark brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, aggregate and coal fragments.
		1.00	T		0.90			MADE GROUND - Yellow grey brown slightly clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, sub angular to sub rounded of brick, concrete, wood and sandstone.
		1.00		N=10 (3,2/3,2,3,2)				
		1.50 - 1.70	B					Firm becoming stiff yellowish to greyish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone and occasional mudstone.
		2.00	T					
		2.00		N=39 (12,13/11,12,9,7)	2.40			Extremely weak yellowish greyish brown weathered MUDSTONE.
		3.00		N=50 (9,12/50 for 255mm)	3.00			End of borehole at 3.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 3.00m due to refusal.
3. Gas and water monitoring well installed to 3.00m depth.

Borehole Log

Borehole No. **WS02**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415897.00 - 419516.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	TJ		0.08			MADE GROUND - Asphalt concrete.
					0.30			MADE GROUND - Yellow grey slightly gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, sub angular of aggregate.
		1.00	T		1.00			Medium dense yellow grey slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		1.00		N=38 (9,9/7,10,11,10)				Stiff greyish yellow sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
					1.70			Extremely weak yellowish greyish brown weathered MUDSTONE.
		2.00		N=50 (7,11/13,10,13,14)	2.00			End of borehole at 2.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 2.00m depth due to refusal and backfilled with arisings.

Borehole Log

Borehole No. **WS03**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415886.00 - 419567.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	TJ		0.25			MADE GROUND - Grass overlying dark brown slightly gravelly sandy clayey topsoil. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, concrete and rare wood.
		0.60	TJ		0.50			MADE GROUND - Dark yellowish brown sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone, aggregate and brick.
		1.00		N=15 (11,10/6,3,3,3)	0.80			Firm pale yellow grey slightly sandy CLAY. Sand is fine to medium.
		1.00 - 1.30	B					Stiff becoming very stiff greyish yellow sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		1.80	T					
		2.00		50 (6,6/50 for 115mm)	2.00			End of borehole at 2.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 2.00m due to refusal.
3. Gas and water monitoring well installed to 2.00m depth.

Borehole Log

Borehole No. **WS04**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415887.00 - 419542.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	TJ		0.40			MADE GROUND - Grass overlying dark brown sandy gravelly clay with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, sub angular of aggregates, bricks and slate fragments.
		0.50 0.60	TJ	50 (25 for 90mm/50 for 95mm)	0.60			MADE GROUND - Grey brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, concrete, flint, aggregate and plastic. End of borehole at 0.60 m

Remarks
1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 0.60m due to refusal on obstruction.

Borehole Log

Borehole No. **WS04A**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415887.00 - 419543.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.60		50 (25 for 70mm/50 for 85mm)	0.40 0.60			MADE GROUND - Grass overlying dark brown sandy gravelly clay with occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse, sub angular of aggregates, bricks and slate fragments. MADE GROUND - Grey brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, concrete, flint, aggregate and plastic. End of borehole at 0.60 m

Remarks
1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 0.60m due to refusal on obstruction.

Borehole Log

Borehole No. **WS05**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415952.00 - 419545.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	TJ		0.05 0.15			MADE GROUND - Asphalt concrete.
					0.40			MADE GROUND - Dark grey black sandy gravel. Sand is fine to coarse. Gravel is coarse, sub angular of asphalt concrete, brick and occasional concrete.
		0.70 0.80 - 1.00	TJ B					MADE GROUND - Dark grey brown sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of asphalt concrete and brick.
		1.00		N=50 (9,12/50 for 235mm)	1.00			Firm becoming very stiff yellow orangish brown very sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone and occasional mudstone.
								End of borehole at 1.00 m

Remarks
1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 1.00m due to refusal.

Borehole Log

Borehole No. **WS06**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415943.00 - 419525.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 17/11/2022 - 17/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	TJ		0.05 0.10 0.15			MADE GROUND - Asphalt concrete. MADE GROUND - Black sandy gravel. Sand is fine to coarse. Gravel is fine to coarse, sub angular of weathered asphalt concrete.
		0.70 0.80 - 1.00 1.00	T B	50 (12,13/50 for 125mm)	1.00			MADE GROUND - Yellow grey sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, subangular of asphalt concrete, brick and sandstone. Dense becoming very dense yellow to orange brown clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone. End of borehole at 1.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 1.00m due to refusal.

Borehole Log

Borehole No. **WS07**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415913.00 - 419613.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 18/11/2022 - 18/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.12			MADE GROUND - Asphalt concrete.
		0.30	TJ		0.45			MADE GROUND - Black and red sandy gravels with occasional cobbles. Sand is fine to coarse. Gravel and cobbles are fine to coarse, sub angular of asphalt concrete, brick and ash.
		0.70	TJ		0.60			MADE GROUND - Greyish yellowish brown sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone and rare brick and aggregate.
		1.00		N=5 (1,1/1,2,1,1)				Soft yellowish orange brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		1.50 - 1.80	B		1.80			Soft yellowish orange brown sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		2.00		N=7 (1,1/1,2,2,2)				
		2.50	T					
		2.70 - 3.00	B					
		3.00		N=15 (3,3/2,4,4,5)	3.00			Extremely weak yellowish greyish brown weathered MUDSTONE.
		4.00		50 (25 for 105mm/50 for 215mm)	4.00			End of borehole at 4.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 4.00m due to refusal.
4. Gas and water monitoring well installed to 3.00m depth.

Borehole Log

Borehole No. **WS08**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415903.00 - 419600.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 18/11/2022 - 18/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	TJ		0.20			MADE GROUND - Grass overlying dark brown slightly gravelly sandy clayey topsoil. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, aggregate, coal and asphalt concrete.
		0.60	TJ		0.60			MADE GROUND - Dark brown sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, asphalt concrete, coal and rare metal.
		1.00 1.00	T	N=40 (5,9/8,12,12,8)				MADE GROUND - Brownish grey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, concrete, aggregate, metal, ceramics and occasional glass.
		2.00		N=2 (0,1/0,1,1,0)	2.00			Soft greyish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		2.70 - 3.00	B					
		3.00 3.00	T	N=6 (3,2/2,2,1,1)				
					3.50			Extremely weak yellowish greyish brown weathered MUDSTONE.
		4.00		50 (25 for 85mm/50 for 105mm)	4.00			End of borehole at 4.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 4.00m due to refusal.

Borehole Log

Borehole No. **WS09**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415943.00 - 419603.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 18/11/2022 - 18/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	TJ		0.15			MADE GROUND - Grass overlying dark brown sandy gravelly clayey topsoil. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick and aggregate.
		0.50	TJ		0.60			MADE GROUND - Grey red beige sandy gravels. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick, sandstone and asphalt concrete and concrete.
		1.00 1.00	T	N=6 (2,2/1,1,2,2)	0.90			MADE GROUND - Dark brown grey sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, sub angular of asphalt concrete and brick.
		1.80 - 2.00	B					Soft becoming firm yellowish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular of sandstone.
		2.00 2.00	T	N=20 (2,2/4,4,6,6)	2.30			Dense orange yellow gravelly slightly clayey SAND. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		3.00		N=38 (10,8/9,10,11,8)	3.00			Extremely weak yellowish greyish brown weathered MUDSTONE.
		3.60		50 (25 for 30mm/50 for 40mm)	3.60			End of borehole at 3.60 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 3.60m due to refusal.

Borehole Log

Borehole No. **WS10**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415961.00 - 419572.00	Hole Type WS
Location: Huddersfield		Level:	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 18/11/2022 - 18/11/2022	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	TJ		0.30			MADE GROUND - Grass overlying dark brown slightly gravelly sandy clayey topsoil. Sand is fine to coarse. Gravel is fine to coarse, sub angular of brick and sub rounded of quartzite.
		0.70	T					Medium dense yellow orange very clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		0.70 - 1.00	B					
		1.00		N=15 (3,2/3,4,4,4)				
		1.50	T					*...with occasional pockets of very sandy gravelly clay.*
		2.00		N=42 (7,7/8,9,12,13)	2.00			Extremely weak yellowish greyish brown weathered MUDSTONE.
		3.00		N=50 (7,8/50 for 235mm)	3.00			End of borehole at 3.00 m

Remarks

1. No groundwater was encountered during the drilling process.
2. Borehole was terminated at 3.00m depth.
3. Gas and water monitoring standpipe installed to 3.00m depth.

Trial Pit Log

Trialpit No **TP01**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415914.00 - 419602.00 Level: 130.50	Date 07/02/2023
Location: Huddersfield		Dimensions (m): Depth 3.20	Scale 1:25
Client: Frank Shaw Associates Ltd			Logged MK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	TJ					MADE GROUND - Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse sub angular of asphalt, concrete and brick and aggregate. Sub rounded of quartzite.
				0.30	130.20		
	0.50	TJ					MADE GROUND - Brown grey gravelly sand with cobbles and boulders. Gravel, cobbles and boulders are sub angular of brick, concrete, asphalt concrete, wire, rebar, sandstone, rubber and ceramics.
				3.20	127.30		End of pit at 3.20 m

1
2
3
4
5

Remarks:
1. No groundwater was encountered during the drilling process.
2. Trial pit was terminated at 3.20m depth due to sides collapsing and maximum reached with the excavator.

Stability: Sides unstable.

Trial Pit Log

Trialpit No **TP02**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415911.00 - 419573.00 Level: 132.50	Date 07/02/2023
Location: Huddersfield		Dimensions (m): Depth 1.20	Scale 1:25
Client: Frank Shaw Associates Ltd			Logged MK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	TJ		0.35	132.15		MADE GROUND - Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse sub angular of asphalt, concrete, brick, aggregate and subrounded of quartzite.
	0.60	TJ		0.70	131.80		MADE GROUND - Brown grey gravelly cobbly sand. Sand is fine to coarse. Gravel and cobbles are fine to coarse sub angular of brick, concrete, asphalt, metal, wire and sandstone.
				1.20	131.30		Firm orangish yellowish brown sandy gravelly CLAY with occasional cobbles. Sand is fine to coarse. Gravel is fine to coarse sub angular of sandstone.
							End of pit at 1.20 m

1
2
3
4
5

Remarks:
1. No groundwater was encountered during the drilling process.
2. Trial pit was terminated at 1.20m depth and backfilled with arisings.

Stability: Sides stable.

Trial Pit Log

Trialpit No **TP03** Sheet 1 of 1

Project Name:	St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415881.00 - 419537.00 Level: 134.60
Location:	Huddersfield	Dimensions (m): Depth 3.00	Date 07/02/2023 Scale 1:25
Client:	Frank Shaw Associates Ltd		Logged MK

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND - Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse sub angular of asphalt, concrete, brick, aggregate and sub rounded of quartzite.
				0.40	134.20		MADE GROUND - Brownish grey gravelly cobbly sand. Sand is fine to coarse. Gravel and cobbles are fine to coarse, sub angular of brick, concrete, metal, plastic wire and occasional sandstone.
				2.70	131.90		Firm yellowish brown gravelly sandy CLAY with cobbles. Sand is fine to coarse. Gravel is fine to coarse subangular of sandstone. Cobbles are fine to coarse subangular of sandstone.
				3.00	131.60		End of pit at 3.00 m

Remarks:
1. No groundwater was encountered during the drilling process.
2. Trial pit was terminated at 3.00m depth and backfilled with arisings.

Stability: Sides collapsing from 2.00m depth.

Trial Pit Log

Trialpit No **TP04**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415925.00 - 419551.00 Level: 133.00	Date 07/02/2023
Location: Huddersfield		Dimensions (m): Depth 0.30	Scale 1:25
Client: Frank Shaw Associates Ltd			Logged MK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	TJ		0.30	132.70		MADE GROUND - Brown clayey slightly gravelly sandy topsoil. Sand is fine to coarse. Gravel is fine to coarse, subangular of brick, sandstone, asphalt concrete and concrete. Frequent rootlets with rootlets. End of pit at 0.30 m

1
2
3
4
5

Remarks:
1. No groundwater was encountered during the drilling process.
2. Trial pit was terminated at 0.30m depth and backfilled with arisings.

Stability: Sides stable.

Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415917.00 - 419524.00 Level: 135.65	Date 07/02/2023
Location: Huddersfield		Dimensions (m): Depth 0.20	Scale 1:25
Client: Frank Shaw Associates Ltd			Logged MK

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	TJ		0.20	135.45		MADE GROUND - Brown clayey slightly gravelly sandy topsoil. Sand is fine to coarse. Gravel is fine to coarse sub angular of brick, sandstone, asphalt concrete, coal fragments and sub rounded quartzite. Frequent rootlets. End of pit at 0.20 m

1
2
3
4
5

Remarks:
1. No groundwater was encountered during the drilling process.
2. Trial pit was terminated at 0.20m depth and backfilled with arisings.

Stability: Sides stable.

Borehole Log

Borehole No. **RO01**

Sheet 1 of 2

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415922.00 - 419559.00	Hole Type RO
Location: Huddersfield		Level: 132.80	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 24/04/2023 - 25/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	132.50		MADE GROUND: Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, subangular of asphalt concrete, brick, concrete and aggregate.
					0.70	132.10		MADE GROUND: Brown grey gravelly cobbly sand. Sand is fine to coarse. Gravel is fine to coarse, subangular of brick, concrete, asphalt concrete, metal, wire and sandstone.
		1.20		N=8 (1,1/1,1,2,4)	1.20	131.60		Firm yellowish brown grey sandy gravelly CLAY. Sandy is fine to coarse. Gravel is subangular of sandstone and mudstone.
		2.20		N=50 (25 for 140mm/50 for 165mm)				Peninne Lower Coal Measures Strata (MUDSTONE AND SANDSTONE)
		3.20		N=50 (6,9/50 for 255mm)				
		4.20		N=50 (5,12/50 for 270mm)				
		5.20		N=50 (7,13/50 for 190mm)				
		6.70		N=50 (25 for 130mm/50 for 140mm)				
		8.20		N=50 (6,15/50 for 130mm)				
		9.70		N=45 (25 for 105mm/45 for 165mm)				

Continued on next sheet

Remarks

1. Hand excavated pit undertaken to 1.20m begl.
2. Borehole advanced using rotary open hole methodology with water as a flushing medium.
3. Borehole terminated at 15.35m begl, target depth achieved.

Borehole Log

Borehole No. **RO01**
Sheet 2 of 2

Project Name:	St Joseph Norton SEMH School	Project No. C4164	Co-ords:	415922.00 - 419559.00	Hole Type RO
Location:	Huddersfield		Level:	132.80	Scale 1:50
Client:	Frank Shaw Associates Ltd		Dates:	24/04/2023 - 25/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		12.70		N=50 (5,8/50 for 40mm)				
		14.20		N=50 (25 for 80mm/50 for 120mm)				
		15.00		N=50 (11,13/50 for 200mm)				
					15.35	117.45		End of borehole at 15.35 m

11 12 13 14 15 16 17 18 19 20

Remarks
1. Hand excavated pit undertaken to 1.20m begl.
2. Borehole advanced using rotary open hole methodology with water as a flushing medium.
3. Borehole terminated at 15.35m begl, target depth achieved.

Borehole Log

Borehole No. **RO02**

Sheet 1 of 2

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415887.00 - 419574.00	Hole Type RO
Location: Huddersfield		Level: 132.10	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 25/04/2023 - 26/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	131.80		MADE GROUND: Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, subangular of asphalt concrete, brick, concrete and aggregate.
					0.50	131.60		MADE GROUND: Brown grey gravelly cobbly sand. Sand is fine to coarse. Gravel is fine to coarse, subangular of brick, concrete, asphalt concrete, metal, wire and sandstone.
		1.20		N=50 (4,4/12,13,13,12)	1.20	130.90		Stiff becoming very stiff greyish yellow sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub angular of sandstone.
		2.20		N=50 (4,10/50 for 260mm)				Peninne Lower Coal Measures Strata (MUDSTONE AND SANDSTONE)
		3.20		N=50 (3,10/50 for 220mm)				
		4.20		N=50 (23,2/50 for 155mm)				
		5.20		N=50 (25 for 120mm/50 for 215mm)				
		6.70		N=50 (4,20/50 for 130mm)				
		8.20		N=50 (25 for 110mm/50 for 20mm)				
		9.70		N=50 (6,9/50 for 210mm)				

Continued on next sheet

Remarks

1. Hand excavated pit undertaken to 1.20m begl.
2. Borehole advanced using rotary open hole methodology with water as a flushing medium.
3. Borehole terminated at 15.30m begl, target depth achieved.

Borehole Log

Borehole No. **RO02**

Sheet 2 of 2

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415887.00 - 419574.00	Hole Type RO
Location: Huddersfield		Level: 132.10	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 25/04/2023 - 26/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.20		N=50 (25 for 120mm/50 for 165mm)				
		12.70		N=50 (8,16/50 for 210mm)				
		14.20		N=50 (25 for 40mm/50 for 55mm)				
		15.00		N=50 (25 for 105mm/50 for 190mm)	15.30	116.80		End of borehole at 15.30 m

Remarks

1. Hand excavated pit undertaken to 1.20m begl.
2. Borehole advanced using rotary open hole methodology with water as a flushing medium.
3. Borehole terminated at 15.30m begl, target depth achieved.

Borehole Log

Borehole No. **RO03**

Sheet 1 of 2

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415916.00 - 419602.00	Hole Type RO
Location: Huddersfield		Level: 130.50	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 26/04/2023 - 26/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	130.15		MADE GROUND: Grass overlying dark brown clayey gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, subangular of asphalt concrete, brick, concrete and aggregate.
								MADE GROUND - Brown grey gravelly sand with cobbles and boulders. Gravel, cobbles and boulders are sub angular of brick, concrete, asphalt concrete, wire, rebar, sandstone, rubber and ceramics.
		5.00		N=50 (9,14/50 for 205mm)	5.00	125.50		Peninne Lower Coal Measures Strata (MUDSTONE AND SANDSTONE)
		6.50		N=50 (25 for 120mm/50 for 205mm)				
		8.00		N=50 (25 for 65mm/50 for 70mm)				
		9.50		N=50 (25 for 105mm/50 for 140mm)				

Continued on next sheet

Remarks

1. Borehole advanced using rotary open hole methodology with water as a flushing medium.
2. Borehole terminated at 15.42m begl, target depth achieved.
3. No SPTs undertaken between G.L and 4.00m due to loose and cobbly nature of Made Ground backfill.

Borehole Log

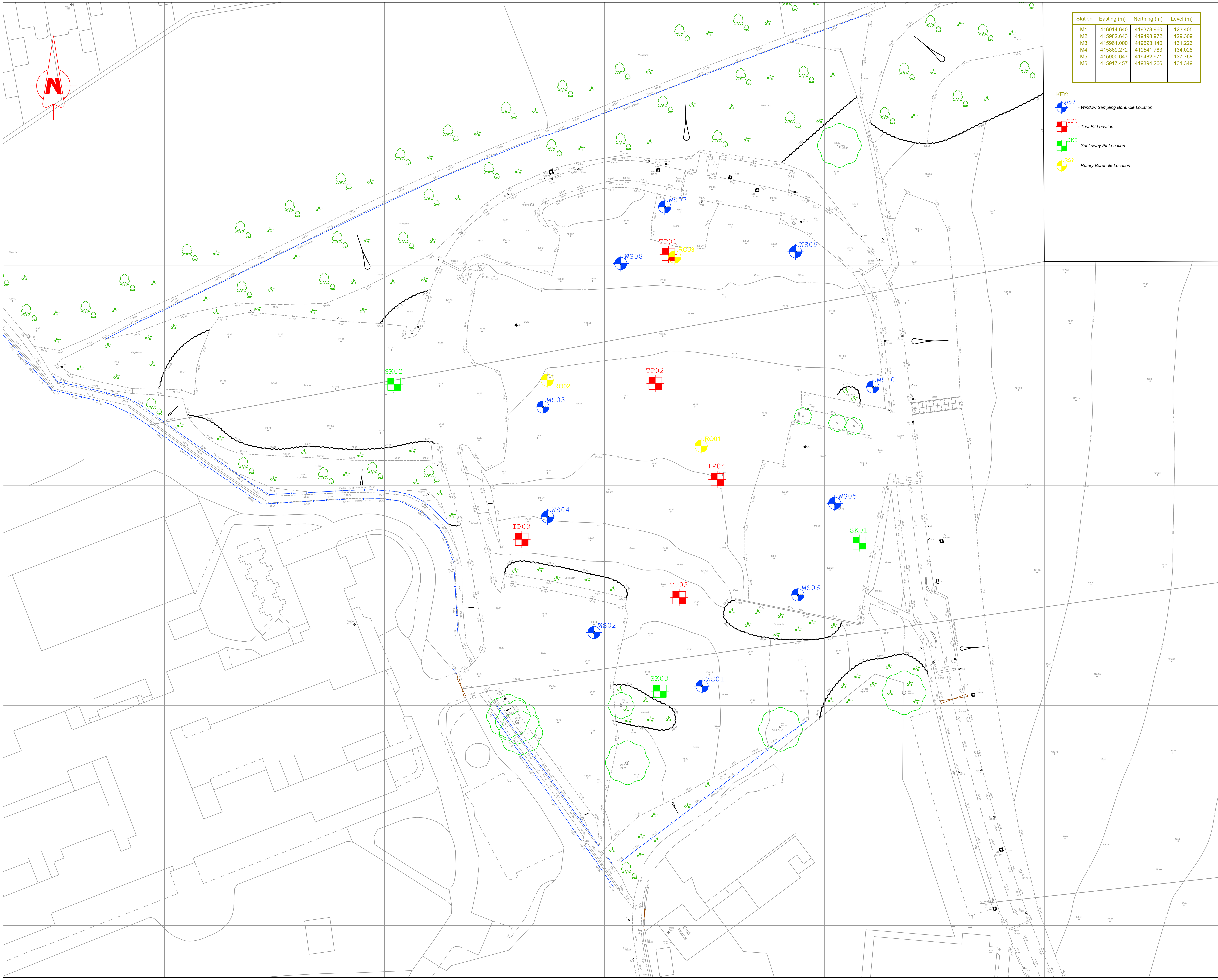
Borehole No. **RO03**
Sheet 2 of 2

Project Name: St Joseph Norton SEMH School	Project No. C4164	Co-ords: 415916.00 - 419602.00	Hole Type RO
Location: Huddersfield		Level: 130.50	Scale 1:50
Client: Frank Shaw Associates Ltd		Dates: 26/04/2023 - 26/04/2023	Logged By MK

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.00		N=50 (6,17/50 for 215mm)				
		12.50		N=50 (4,12/50 for 245mm)				
		14.00		N=50 (25 for 115mm/50 for 215mm)				
		15.00		N=50 (3,8/50 for 275mm)				
					15.43	115.07		End of borehole at 15.42 m

Remarks
1. Borehole advanced using rotary open hole methodology with water as a flushing medium.
2. Borehole terminated at 15.42m begl, target depth achieved.
3. No SPTs undertaken between G.L and 4.00m due to loose and cobbly nature of Made Ground backfill.

Appendix IV



Station	Easting (m)	Northing (m)	Level (m)
M1	416014.640	419373.960	123.405
M2	415982.643	419498.972	129.309
M3	415961.000	419593.140	131.226
M4	415869.272	419541.783	134.028
M5	415900.647	419482.971	137.758
M6	415917.457	419394.266	131.349

KEY:

WS? - Window Sampling Borehole Location

TP? - Trial Pit Location

SK? - Soakaway Pit Location

RO? - Rotary Borehole Location

KEY FOR UNDERGROUND SERVICES

ABBREVIATION KEY

UTILITY SURVEY NOTES

Key:

Ordnance Survey information is provided for a guide only.

REV	BY	DATE	DETAILS	CKD
P01	IA	11.05.23	Added rotary borehole locations	MK

STATUS

CLIENT

Frank Shaw Associates Ltd

PROJECT

Joseph Norton SEMH School, Deighton Rd, Huddersfield, HD2 1JP

TITLE

Site Investigation Layout Plan

hsp consulting

Lawrence House, 6 Meadowbank Way, Eastwood, Nottingham, NG16 3SB
Tel: 01773 535555 www.hspconsulting.com

SCALE 1:1000 | SHEET SIZE A1

DATE 14.12.2022 | DRAWN DRS | CHECKED LAB

PROJECT NO. C4164 | DRAWING NO. 501 | REV A

Appendix V

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-45051-1
Initial Date of Issue:	04-Jan-2023
Client	HSP Consulting Engineers Limited
Client Address:	Lawrence House Meadowbank Way Eastwood Nottinghamshire NG16 3SB
Contact(s):	Matthew Kent
Project	C4164 Josheph Norton SEMH School

Quotation No.:		**Date Received:**	23-Nov-2022
Order No.:		**Date Instructed:**	23-Nov-2022
No. of Samples:	19		
Turnaround (Wkdays):	10	**Results Due:**	06-Dec-2022
Date Approved:	04-Jan-2023		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: C4164 Josheph Norton SEMH School

Client: HSP Consulting Engineers Limited		**Chemtest Job No.:**			22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051
Quotation No.:		**Chemtest Sample ID.:**			1551116	1551117	1551118	1551119	1551120	1551121	1551123	1551124
		Sample Location:			WS01	WS02	WS02	WS03	WS03	WS04	WS05	WS07
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.1	0.2	1.0	0.15	1.8	0.2	0.7	0.3
		Date Sampled:			17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	18-Nov-2022
		Asbestos Lab:			NEW-ASB	NEW-ASB		NEW-ASB		NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A	-	-		-		-		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected		No Asbestos Detected
Moisture	N	2030	%	0.020	13	13	16	16	14	17	9.8	17
Chromatogram (TPH)	N			N/A	See Attached	See Attached		See Attached		See Attached	See Attached	See Attached
pH	M	2010		4.0	8.5	9.3	5.8	8.7	7.7	8.4	5.7	9.3
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	0.51		0.81		< 0.40	< 0.40	< 0.40
Magnesium (Water Soluble)	N	2120	g/l	0.010			< 0.010		< 0.010		< 0.010	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010	0.12	0.011	0.054	< 0.010	0.015	0.017	0.076
Total Sulphur	M	2175	%	0.010	0.12	0.074	0.030	0.13	< 0.010	0.098	0.012	0.26
Chloride (Water Soluble)	M	2220	g/l	0.010			0.075		< 0.010		< 0.010	
Nitrate (Water Soluble)	N	2220	g/l	0.010			< 0.010		< 0.010		< 0.010	
Cyanide (Total)	M	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						4.3		
Sulphate (Total)	U	2430	%	0.010			0.035		0.019		0.027	
Sulphate (Total)	U	2430	mg/kg	100	1600	2200		2400		1000	270	2100
Arsenic	M	2455	mg/kg	0.5	12	8.6		10		6.7	1.9	33
Cadmium	M	2455	mg/kg	0.10	0.32	0.48		0.85		0.26	0.96	0.13
Chromium	M	2455	mg/kg	0.5	29	14		37		18	15	19
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0		2.6		< 2.0	< 2.0	< 2.0
Copper	M	2455	mg/kg	0.50	36	22		40		25	12	42
Mercury	M	2455	mg/kg	0.05	0.10	< 0.05		0.09		0.07	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	20	18		22		14	16	25
Lead	M	2455	mg/kg	0.50	62	19		110		57	63	8.1
Selenium	M	2455	mg/kg	0.25	0.67	0.43		0.64		0.49	0.43	0.67
Vanadium	U	2455	mg/kg	0.5	24	16		25		17	15	33
Zinc	M	2455	mg/kg	0.50	78	69		100		61	110	17
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50
LOI	M	2610	%	0.10	4.9	3.0		4.5		4.4	0.66	4.6
Organic Matter	M	2625	%	0.40	5.3			3.6		4.3		29
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

Results - Soil

Project: C4164 Josheph Norton SEMH School

Client: HSP Consulting Engineers Limited		**Chemtest Job No.:**			22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051
Quotation No.:		**Chemtest Sample ID.:**			1551116	1551117	1551118	1551119	1551120	1551121	1551123	1551124
		Sample Location:			WS01	WS02	WS02	WS03	WS03	WS04	WS05	WS07
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.1	0.2	1.0	0.15	1.8	0.2	0.7	0.3
		Date Sampled:			17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	17-Nov-2022	18-Nov-2022
		Asbestos Lab:			NEW-ASB	NEW-ASB		NEW-ASB		NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
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
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	89	< 1.0		19		< 1.0	85	< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	660	< 1.0		20		< 1.0	50	< 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	750	< 5.0		38		< 5.0	130	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	750	< 10		38		< 10	130	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	1.0	< 0.10		210		0.89	< 0.10	0.21
Acenaphthylene	N	2800	mg/kg	0.10	0.53	< 0.10		0.91		0.40	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	2.7	< 0.10		28		2.4	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	2.3	< 0.10		22		3.2	< 0.10	0.12
Phenanthrene	M	2800	mg/kg	0.10	22	0.18		140		38	0.12	1.1
Anthracene	M	2800	mg/kg	0.10	7.3	< 0.10		29		7.2	< 0.10	0.28
Fluoranthene	M	2800	mg/kg	0.10	40	0.27		190		45	0.12	1.3
Pyrene	M	2800	mg/kg	0.10	34	0.22		160		36	0.13	0.97
Benzo[a]anthracene	M	2800	mg/kg	0.10	19	< 0.10		95		19	< 0.10	0.53
Chrysene	M	2800	mg/kg	0.10	18	< 0.10		91		18	< 0.10	0.47
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	25	< 0.10		100		22	< 0.10	0.49
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	8.7	< 0.10		44		8.5	< 0.10	0.17
Benzo[a]pyrene	M	2800	mg/kg	0.10	24	< 0.10		98		20	< 0.10	0.37
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	14	< 0.10		62		12	< 0.10	0.29
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	2.2	< 0.10		13		2.4	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	12	< 0.10		53		10	< 0.10	0.25
Total Of 16 PAH's	N	2800	mg/kg	2.0	230	< 2.0		1300		250	< 2.0	6.6
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10		< 0.10		< 0.10	< 0.10	< 0.10

Results - Soil

Project: C4164 Josheph Norton SEMH School

Client: HSP Consulting Engineers Limited		**Chemtest Job No.:**			22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051
Quotation No.:		**Chemtest Sample ID.:**			1551125	1551126	1551128	1551129	1551130	1551131	1551132	1551133
		Sample Location:			WS07	WS07	WS08	WS08	WS08	WS09	WS09	WS09
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.7	2.5	0.6	1.0	3.0	0.1	0.5	1.0
		Date Sampled:			18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022
		Asbestos Lab:					NEW-ASB	NEW-ASB		NEW-ASB	NEW-ASB	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A			-	-		-	-	
Asbestos Identification	U	2192		N/A			No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	
Moisture	N	2030	%	0.020	13	15	12	14	19	13		16
Chromatogram (TPH)	N			N/A	See Attached		See Attached			See Attached		
pH	M	2010		4.0	7.1	6.6	9.4	9.7	8.3	8.2		7.8
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40		2.1			< 0.40		
Magnesium (Water Soluble)	N	2120	g/l	0.010	< 0.010	< 0.010		< 0.010	< 0.010			< 0.010
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010	0.058	1.6	1.7	0.053	< 0.010		< 0.010
Total Sulphur	M	2175	%	0.010	0.020	0.042	0.36	0.47	0.049	0.088		0.042
Chloride (Water Soluble)	M	2220	g/l	0.010	< 0.010	0.023		< 0.010	< 0.010			< 0.010
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010	0.012		< 0.010	< 0.010			< 0.010
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50		< 0.50			< 0.50		
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50								
Sulphate (Total)	U	2430	%	0.010	0.027	0.077		1.1	0.053			0.029
Sulphate (Total)	U	2430	mg/kg	100	270		9700			1100		
Arsenic	M	2455	mg/kg	0.5	3.5		5.9			10		
Cadmium	M	2455	mg/kg	0.10	0.74		0.23			0.35		
Chromium	M	2455	mg/kg	0.5	22		14			20		
Antimony	N	2455	mg/kg	2.0	< 2.0		< 2.0			< 2.0		
Copper	M	2455	mg/kg	0.50	19		13			25		
Mercury	M	2455	mg/kg	0.05	< 0.05		< 0.05			0.05		
Nickel	M	2455	mg/kg	0.50	36		12			15		
Lead	M	2455	mg/kg	0.50	28		22			49		
Selenium	M	2455	mg/kg	0.25	0.69		0.50			0.51		
Vanadium	U	2455	mg/kg	0.5	15		16			20		
Zinc	M	2455	mg/kg	0.50	120		390			68		
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50		< 0.50			< 0.50		
LOI	M	2610	%	0.10	5.3		3.7			5.5		
Organic Matter	M	2625	%	0.40						2.6		
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		

Results - Soil

Project: C4164 Josheph Norton SEMH School

Client: HSP Consulting Engineers Limited		**Chemtest Job No.:**			22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051	22-45051
Quotation No.:		**Chemtest Sample ID.:**			1551125	1551126	1551128	1551129	1551130	1551131	1551132	1551133
		Sample Location:			WS07	WS07	WS08	WS08	WS08	WS09	WS09	WS09
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.7	2.5	0.6	1.0	3.0	0.1	0.5	1.0
		Date Sampled:			18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022	18-Nov-2022
		Asbestos Lab:					NEW-ASB	NEW-ASB		NEW-ASB	NEW-ASB	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0		< 5.0			< 5.0		
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0		< 1.0			< 1.0		
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0		< 5.0			< 5.0		
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10		< 10			< 10		
Benzene	M	2760	µg/kg	1.0	< 1.0		< 1.0			< 1.0		
Toluene	M	2760	µg/kg	1.0	< 1.0		< 1.0			< 1.0		
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0		< 1.0			< 1.0		
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0		< 1.0			< 1.0		
o-Xylene	M	2760	µg/kg	1.0	< 1.0		< 1.0			< 1.0		
Naphthalene	M	2800	mg/kg	0.10	< 0.10		0.44			0.41		
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10		< 0.10			0.20		
Acenaphthene	M	2800	mg/kg	0.10	< 0.10		0.13			1.2		
Fluorene	M	2800	mg/kg	0.10	< 0.10		< 0.10			1.2		
Phenanthrene	M	2800	mg/kg	0.10	0.22		0.90			12		
Anthracene	M	2800	mg/kg	0.10	< 0.10		0.21			3.1		
Fluoranthene	M	2800	mg/kg	0.10	0.21		1.5			15		
Pyrene	M	2800	mg/kg	0.10	0.20		1.9			13		
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.19		1.3			7.4		
Chrysene	M	2800	mg/kg	0.10	0.22		1.5			7.5		
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10		2.0			9.5		
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10		0.63			3.6		
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10		1.3			8.7		
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10		1.1			5.3		
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10		0.33			1.0		
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	0.16		0.99			4.7		
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0		14			94		
Total Phenols	M	2920	mg/kg	0.10	< 0.10		< 0.10			< 0.10		

Results - Soil

Project: C4164 Josheph Norton SEMH School

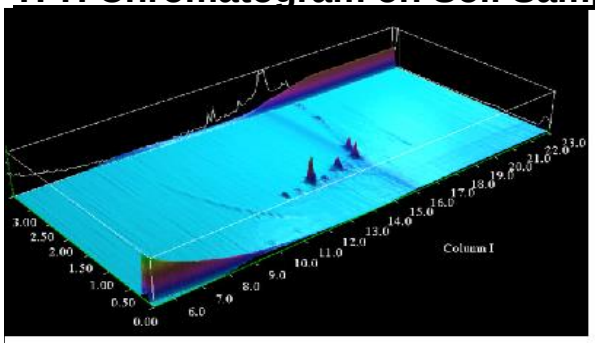
Client: HSP Consulting Engineers Limited			**Chemtest Job No.:**		22-45051
Quotation No.:			**Chemtest Sample ID.:**		1551134
			Sample Location:		WS10
			Sample Type:		SOIL
			Top Depth (m):		0.15
			Date Sampled:		18-Nov-2022
			Asbestos Lab:		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected
Moisture	N	2030	%	0.020	23
Chromatogram (TPH)	N			N/A	See Attached
pH	M	2010		4.0	6.9
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.59
Magnesium (Water Soluble)	N	2120	g/l	0.010	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010
Total Sulphur	M	2175	%	0.010	0.12
Chloride (Water Soluble)	M	2220	g/l	0.010	
Nitrate (Water Soluble)	N	2220	g/l	0.010	
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	
Sulphate (Total)	U	2430	%	0.010	
Sulphate (Total)	U	2430	mg/kg	100	1400
Arsenic	M	2455	mg/kg	0.5	26
Cadmium	M	2455	mg/kg	0.10	0.84
Chromium	M	2455	mg/kg	0.5	29
Antimony	N	2455	mg/kg	2.0	9.3
Copper	M	2455	mg/kg	0.50	150
Mercury	M	2455	mg/kg	0.05	0.27
Nickel	M	2455	mg/kg	0.50	59
Lead	M	2455	mg/kg	0.50	380
Selenium	M	2455	mg/kg	0.25	2.0
Vanadium	U	2455	mg/kg	0.5	63
Zinc	M	2455	mg/kg	0.50	670
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
LOI	M	2610	%	0.10	11
Organic Matter	M	2625	%	0.40	9.3
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0

Results - Soil

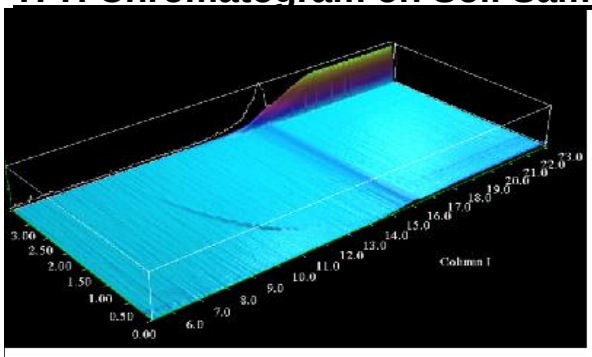
Project: C4164 Josheph Norton SEMH School

Client: HSP Consulting Engineers Limited			**Chemtest Job No.:**		22-45051
Quotation No.:			**Chemtest Sample ID.:**		1551134
			Sample Location:		WS10
			Sample Type:		SOIL
			Top Depth (m):		0.15
			Date Sampled:		18-Nov-2022
			Asbestos Lab:		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	0.28
Acenaphthylene	N	2800	mg/kg	0.10	0.17
Acenaphthene	M	2800	mg/kg	0.10	0.52
Fluorene	M	2800	mg/kg	0.10	0.46
Phenanthrene	M	2800	mg/kg	0.10	4.1
Anthracene	M	2800	mg/kg	0.10	1.2
Fluoranthene	M	2800	mg/kg	0.10	7.9
Pyrene	M	2800	mg/kg	0.10	6.9
Benzo[a]anthracene	M	2800	mg/kg	0.10	3.9
Chrysene	M	2800	mg/kg	0.10	4.2
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	5.2
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	2.0
Benzo[a]pyrene	M	2800	mg/kg	0.10	4.5
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	3.0
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	0.50
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	2.7
Total Of 16 PAH's	N	2800	mg/kg	2.0	48
Total Phenols	M	2920	mg/kg	0.10	< 0.10

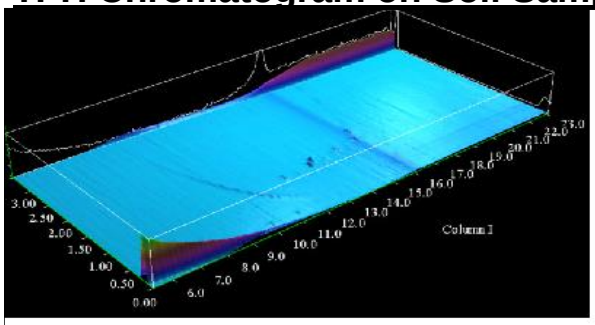
TPH Chromatogram on Soil Sample: 1551116



TPH Chromatogram on Soil Sample: 1551117

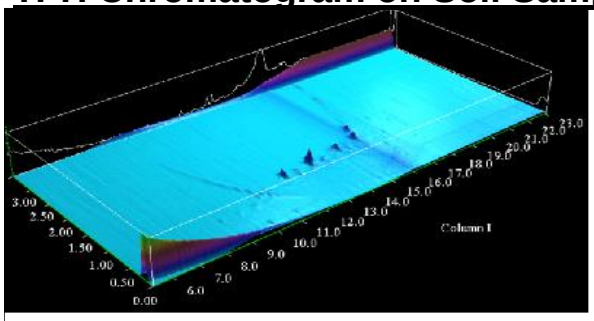


TPH Chromatogram on Soil Sample: 1551119

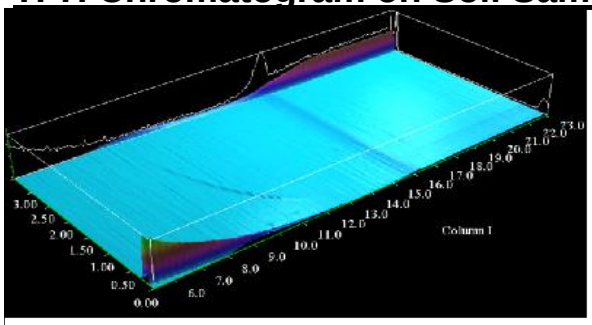


TPH Chromatogram on Soil Sample: 1551121

TPH Chromatogram on Soil Sample: 1551123



TPH Chromatogram on Soil Sample: 1551124



TPH Chromatogram on Soil Sample: 1551125

TPH Chromatogram on Soil Sample: 1551128

TPH Chromatogram on Soil Sample: 1551131

<Sample Information>

Sample Name : Front 1551131 22-45051
Data Filename : 2022-12-13_13122022_Front 1551131 22-45051_019.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 10
Date Acquired : 13/12/2022 19:09:46
Date Processed : 13/12/2022

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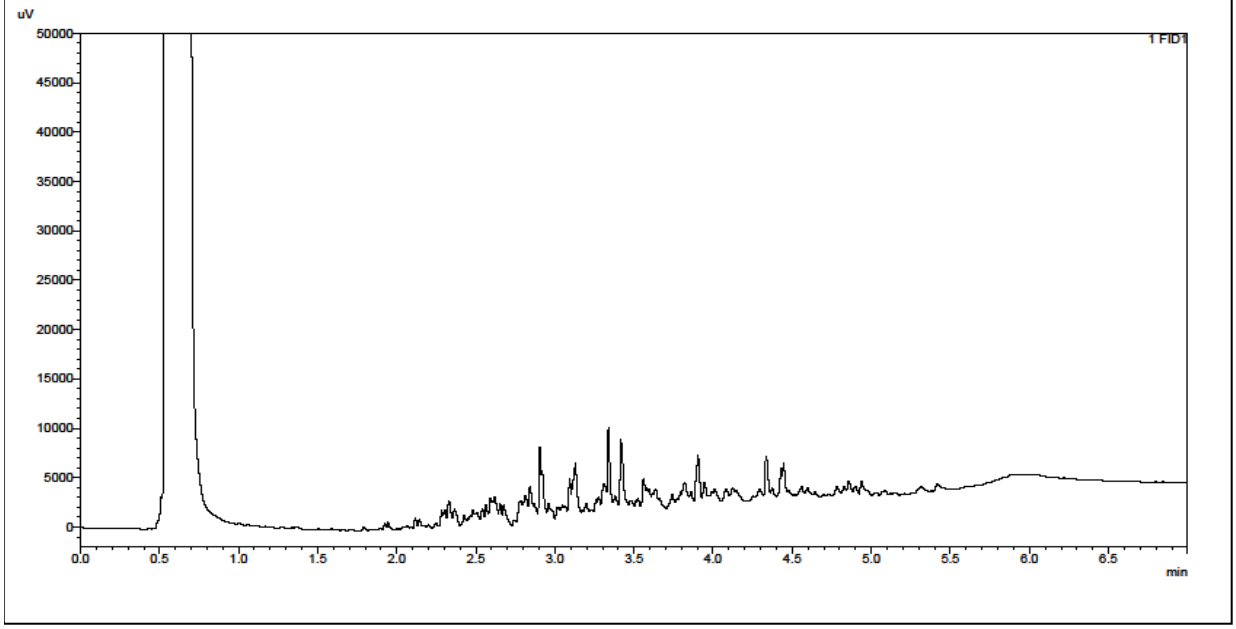
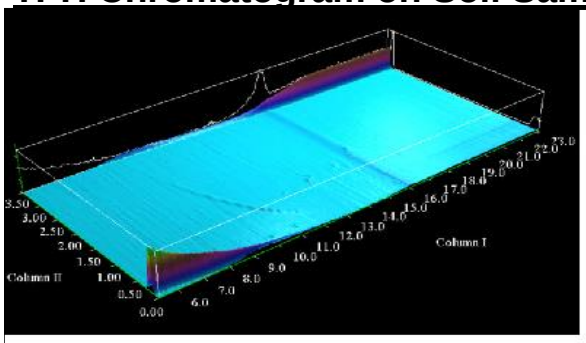


TPH Chromatogram on Soil Sample: 1551134



Results - Single Stage WAC

Project: C4164 Josheph Norton SEMH School

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-45051						
Chemtest Sample ID:	1551122						
Sample Ref:							
Sample ID:							
Sample Location:	WS04						
Top Depth(m):	0.5						
Bottom Depth(m):							
Sampling Date:	17-Nov-2022						
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%	3.0	3	5	6
Loss On Ignition	2610	M	%	3.8	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	410	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	14	100	--	--
pH	2010	M		10.5	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	< 0.0020	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0004	0.0043	0.5	2	25
Barium	1455	U	0.011	0.11	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0065	0.065	0.5	10	70
Copper	1455	U	0.0027	0.028	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0016	0.016	0.5	10	30
Nickel	1455	U	0.0005	0.0052	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0050	0.5	10	50
Antimony	1455	U	0.0009	0.0088	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.025	4	50	200
Chloride	1220	U	1.5	15	800	15000	25000
Fluoride	1220	U	0.26	2.6	10	150	500
Sulphate	1220	U	47	470	1000	20000	50000
Total Dissolved Solids	1020	N	110	1100	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	7.2	72	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	14

Waste Acceptance Criteria

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

Results - Single Stage WAC

Project: C4164 Josheph Norton SEMH School

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-45051						
Chemtest Sample ID:	1551127						
Sample Ref:							
Sample ID:							
Sample Location:	WS08						
Top Depth(m):	0.3						
Bottom Depth(m):							
Sampling Date:	18-Nov-2022						
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%	1.5	3	5	6
Loss On Ignition	2610	M	%	5.4	--	--	10
Total BTEX	2760	M	mg/kg	< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg	< 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	300	100	--	--
pH	2010	M		8.3	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.025	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0039	0.039	0.5	2	25
Barium	1455	U	0.014	0.14	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0014	0.014	0.5	10	70
Copper	1455	U	0.0034	0.034	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0022	0.022	0.5	10	30
Nickel	1455	U	0.0011	0.011	0.4	10	40
Lead	1455	U	0.0031	0.031	0.5	10	50
Antimony	1455	U	0.0007	0.0071	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	0.004	0.041	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.56	5.6	10	150	500
Sulphate	1220	U	4.4	44	1000	20000	50000
Total Dissolved Solids	1020	N	85	840	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	10	100	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	13

Waste Acceptance Criteria

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

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
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
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurememrnt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline 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.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID

Test Methods

SOP	Title	Parameters included	Method summary
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
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*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane 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.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Matthew Kent
HSP Consulting
Lawrence House
Meadowbank Way
Eastwood
Nottingham
NG16 3SB

e: matthew.kent@hspconsulting.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 23-17127

Project / Site name:	Former Dighton Centre	**Samples received on:**	10/02/2023
Your job number:	C4164	**Samples instructed on/ Analysis started on:**	10/02/2023
Your order number:		**Analysis completed by:**	21/02/2023
Report Issue Number:	1	**Report issued on:**	22/02/2023
Samples Analysed:	6 soil samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-17127
Project / Site name: Former Dighton Centre

Lab Sample Number				2582343	2582344	2582345	2582346	2582347
Sample Reference				TP01	TP01	TP02	TP02	TP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.50	0.20	0.60	0.20
Date Sampled				07/02/2023	07/02/2023	07/02/2023	07/02/2023	07/02/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	54	43	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	8.7	9.4	9.5	11
Total mass of sample received	kg	0.001	NONE	0.6	0.6	0.6	0.6	0.6
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite- Loose Fibres	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A	IZJ	IZJ	IZJ	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	11.4	11.5	10.6	9.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	73	740	200	980	320
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.037	0.37	0.1	0.49	0.16
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	36.7	369	101	492	162
Sulphide	mg/kg	1	MCERTS	32	78	27	150	85
Total Sulphur	mg/kg	50	MCERTS	670	4700	1700	2800	1200
Organic Matter (automated)	%	0.1	MCERTS	3.3	-	2.3	-	4.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.9	0.28	0.74	0.63	3.3
Acenaphthylene	mg/kg	0.05	MCERTS	0.35	0.1	0.41	0.19	0.65
Acenaphthene	mg/kg	0.05	MCERTS	4.5	0.63	0.75	0.72	1.9
Fluorene	mg/kg	0.05	MCERTS	3.5	0.29	0.85	0.59	2.3
Phenanthrene	mg/kg	0.05	MCERTS	24	3.2	5.8	5.5	15
Anthracene	mg/kg	0.05	MCERTS	6.4	0.9	1.7	1.5	4.4
Fluoranthene	mg/kg	0.05	MCERTS	32	9.4	9.5	8.9	20
Pyrene	mg/kg	0.05	MCERTS	28	8.8	8.6	8	19
Benzo(a)anthracene	mg/kg	0.05	MCERTS	16	4.8	5.4	5	11
Chrysene	mg/kg	0.05	MCERTS	10	3.3	3.7	3.4	10
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	17	5.3	6.2	5.7	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	4.4	1.3	1.4	1.1	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	13	4	4.9	4.3	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	5.5	1.8	2.2	2	4.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.3	0.44	0.53	0.46	1.4
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5.8*	1.8*	2.3*	2*	6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	173*	46.3*	54.7*	49.9*	112

Analytical Report Number: 23-17127
Project / Site name: Former Dighton Centre

Lab Sample Number				2582343	2582344	2582345	2582346	2582347
Sample Reference				TP01	TP01	TP02	TP02	TP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.50	0.20	0.60	0.20
Date Sampled				07/02/2023	07/02/2023	07/02/2023	07/02/2023	07/02/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	7.2	11	7.7	16
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1.6	0.6	2.1	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	19	26	23	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	36	20	34	28	39
Lead (aqua regia extractable)	mg/kg	1	MCERTS	53	24	41	30	74
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	15	19	17	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	22	30	26	36
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	87	82	84	75	89
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0*	< 5.0*	< 5.0*	< 5.0*	< 5.0*
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.1	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	2.7	< 2.0	3.4	6	5.3
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	14	20
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	33	< 8.0	39	87	150
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	41	< 10	50	110	170
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	1.5	< 1.0	4.2	3.4	5
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	16	< 2.0	19	8.9	25
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	89	16	72	34	150
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	170	44	150	100	360
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	270	60	240	150	540

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be unreliable.

Analytical Report Number: 23-17127
Project / Site name: Former Dighton Centre

Lab Sample Number				2582348
Sample Reference				TP05
Sample Number				None Supplied
Depth (m)				0.10
Date Sampled				07/02/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	9.8
Total mass of sample received	kg	0.001	NONE	0.6

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	300
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.15
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	148
Sulphide	mg/kg	1	MCERTS	70
Total Sulphur	mg/kg	50	MCERTS	860
Organic Matter (automated)	%	0.1	MCERTS	2.7

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.5
Acenaphthylene	mg/kg	0.05	MCERTS	0.35
Acenaphthene	mg/kg	0.05	MCERTS	1.6
Fluorene	mg/kg	0.05	MCERTS	1.2
Phenanthrene	mg/kg	0.05	MCERTS	11
Anthracene	mg/kg	0.05	MCERTS	3.5
Fluoranthene	mg/kg	0.05	MCERTS	22
Pyrene	mg/kg	0.05	MCERTS	20
Benzo(a)anthracene	mg/kg	0.05	MCERTS	11
Chrysene	mg/kg	0.05	MCERTS	10
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	109

Analytical Report Number: 23-17127
Project / Site name: Former Dighton Centre

Lab Sample Number				2582348
Sample Reference				TP05
Sample Number				None Supplied
Depth (m)				0.10
Date Sampled				07/02/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	59
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	89
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0*
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	3.4
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	38
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	48
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	2.1
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	13
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	82
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	160
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	260

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be unreliable.

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2582343	TP01	None Supplied	0.1	Brown clay and loam with gravel and vegetation.
2582344	TP01	None Supplied	0.5	Brown sand with stones and vegetation.
2582345	TP02	None Supplied	0.2	Brown sandy loam with stones and vegetation.
2582346	TP02	None Supplied	0.6	Brown sand with gravel.
2582347	TP04	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2582348	TP05	None Supplied	0.1	Brown clay and loam with gravel and vegetation.

Analytical Report Number : 23-17127
Project / Site name: Former Dighton Centre

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

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Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

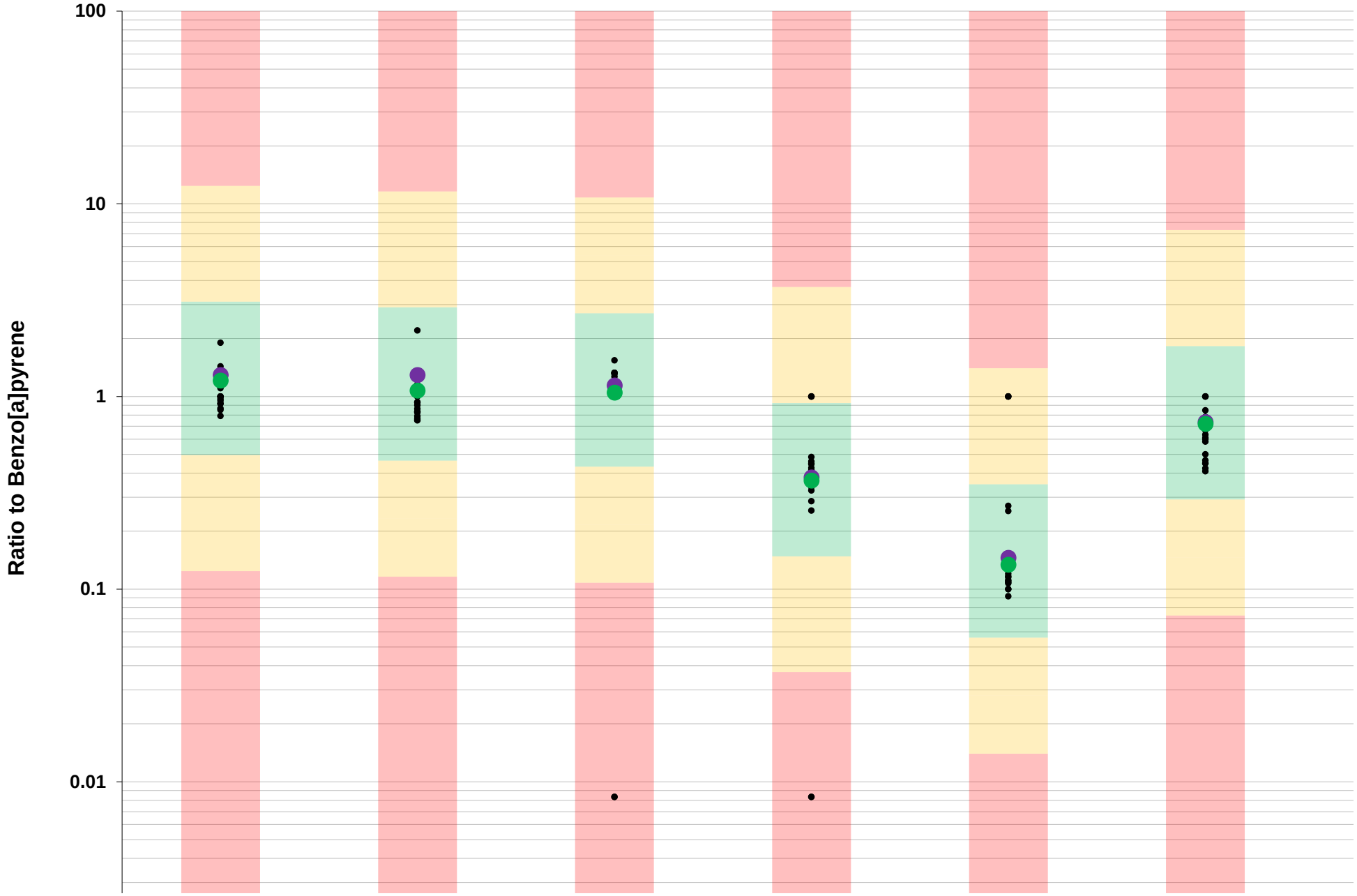
Analytical Report Number : 23-17127
Project / Site name: Former Dighton Centre

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP01	None Supplied	S	2582343	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP01	None Supplied	S	2582343	b	TPHCWG (Soil)	L088/76-PL	b
TP01	None Supplied	S	2582344	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP01	None Supplied	S	2582344	b	TPHCWG (Soil)	L088/76-PL	b
TP02	None Supplied	S	2582345	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP02	None Supplied	S	2582345	b	TPHCWG (Soil)	L088/76-PL	b
TP02	None Supplied	S	2582346	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP02	None Supplied	S	2582346	b	TPHCWG (Soil)	L088/76-PL	b
TP04	None Supplied	S	2582347	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP04	None Supplied	S	2582347	b	TPHCWG (Soil)	L088/76-PL	b
TP05	None Supplied	S	2582348	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP05	None Supplied	S	2582348	b	TPHCWG (Soil)	L088/76-PL	b

P:\C4164 - Joseph Norton SEMH School\6.0 Geoenvironmental\Reports\Phase II\Testing & Analysis\HSP PAH profiling v1.3 FULL BLANK Rev A



Appendix VI

LABORATORY REPORT

4043

Contract Number: PSL22/7591

Report Date: 15 December 2022

Client's Reference: C4164

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

For the attention of: Matthew Kent

Contract Title: Joseph Norton SEMH School

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

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
WS03		SB	1.00	1.30	Brown very gravelly sandy CLAY.
WS05		SB	0.80	1.00	Brown slightly gravelly sandy CLAY.
WS07		SB	1.50	1.80	Brown very gravelly very sandy CLAY.
WS07		SB	2.70	3.00	Brown slightly gravelly sandy silty CLAY.
WS08		SB	2.70	3.00	Brown gravelly sandy silty CLAY.
WS09		SB	1.80	2.00	Brown gravelly sandy silty CLAY.
WS10		SB	0.70	1.00	Brown gravelly sandy silty CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
WS03		SB	1.00	1.30	17			45	22	23	74	Intermediate Plasticity CI
WS05		SB	0.80	1.00	16			38	21	17	97	Intermediate Plasticity CI
WS07		SB	1.50	1.80	16			36	19	17	71	Intermediate Plasticity CI
WS07		SB	2.70	3.00	18			37	21	16	98	Intermediate Plasticity CI
WS08		SB	2.70	3.00	22			38	22	16	87	Intermediate Plasticity CI
WS09		SB	1.80	2.00	17			37	19	18	89	Intermediate Plasticity CI
WS10		SB	0.70	1.00	26			38	21	17	88	Intermediate Plasticity CI

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

Joseph Norton SEMH School

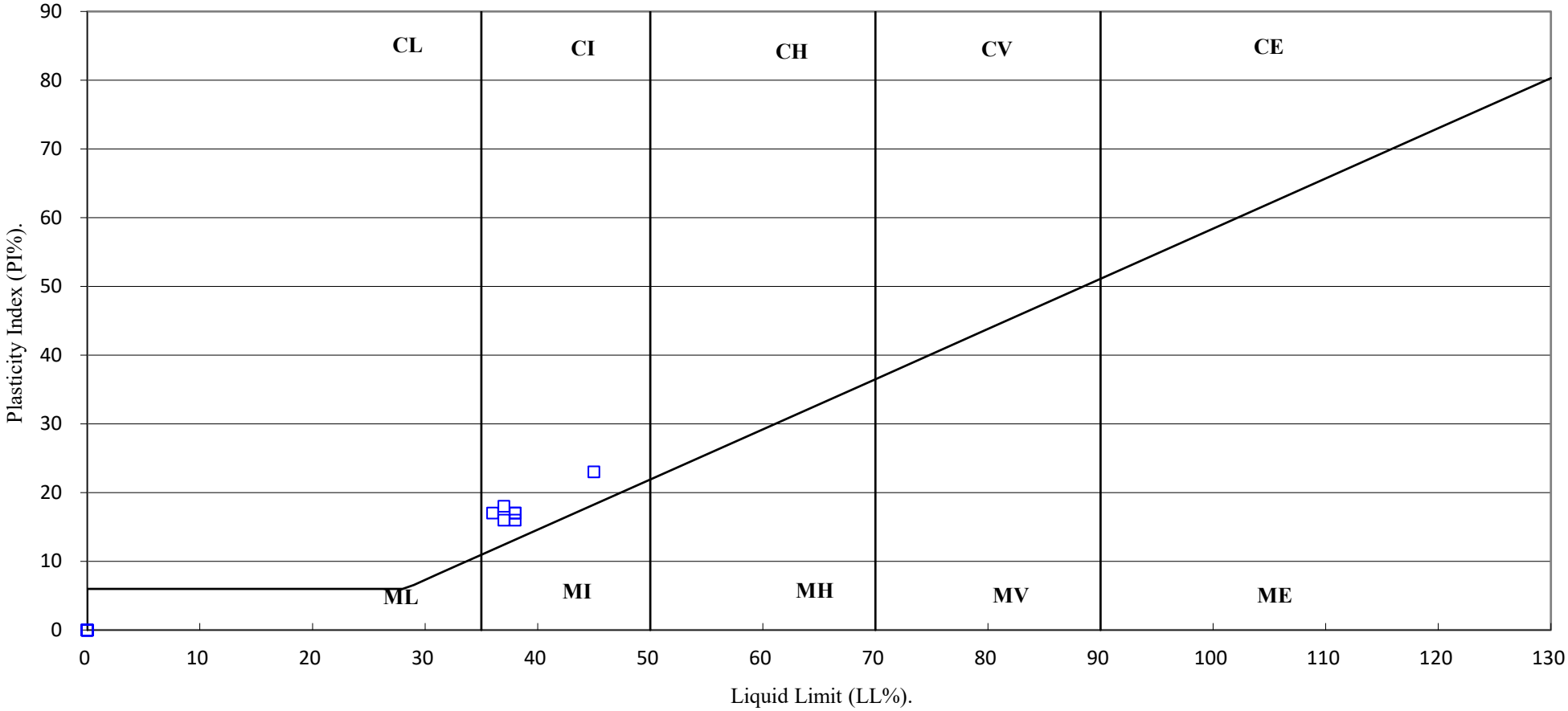
Contract No:

PSL22/7591

Client Ref:

C4164

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



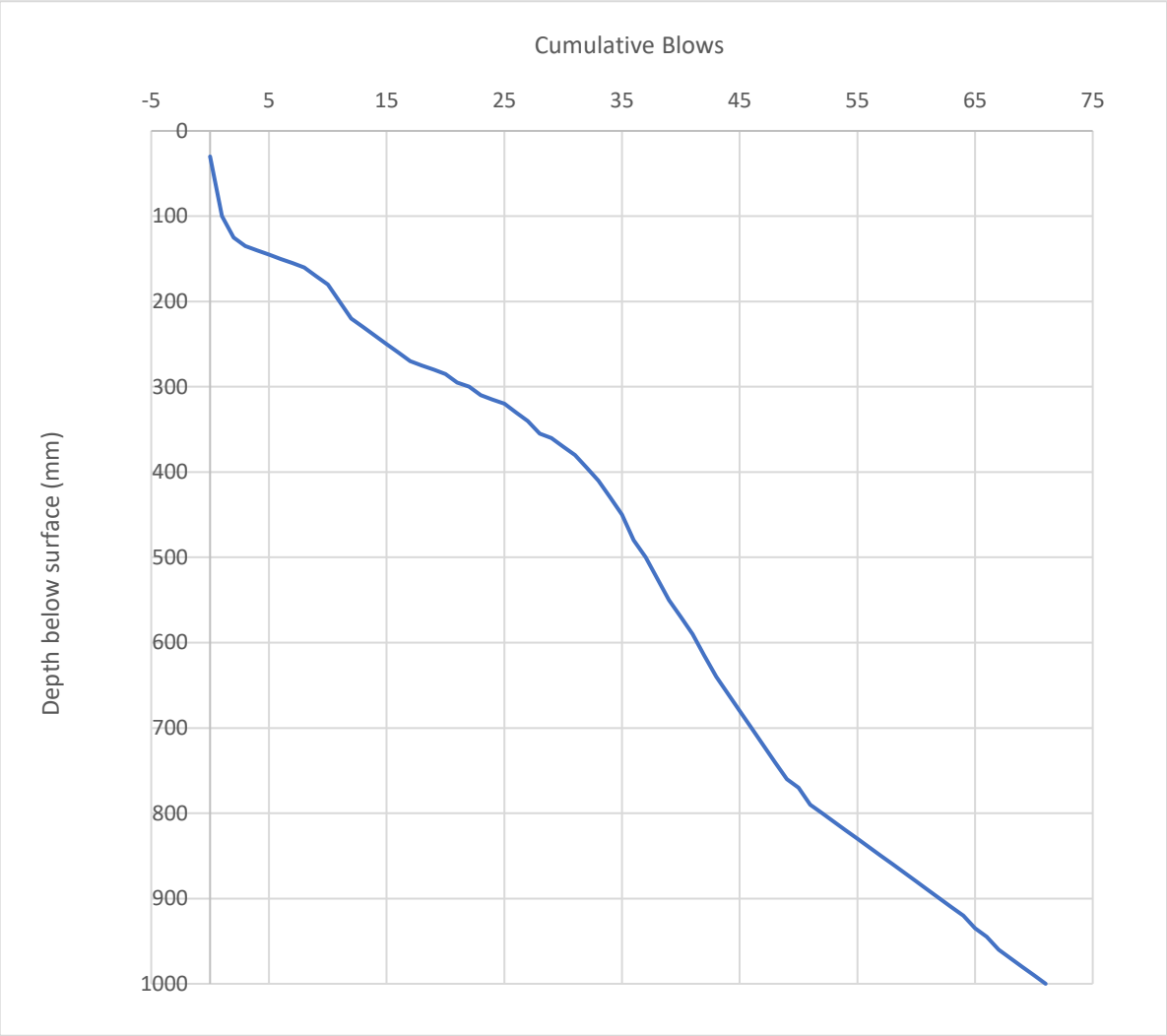
UKAS TESTING 4043	PSL Professional Soils Laboratory	Joseph Norton SEMH School	Contract No: PSL22/7591 Client Ref: C4164

Appendix VII

TRL DCP Test Results

Project Number:	C4164	**Project Name:**	St Joseph Norton
Test Location:	TRL02 Next to BH03	**Date:**	15/02/2023
Start Depth (mmbgl)	0	**Test Completed By**	NC

Determination of Equivalent CBR using TRL Dynamic Cone Penetrometer DCP CBR Relationship based on Kleyn & Van Heerden (60° Cone) - TRL, CS 229



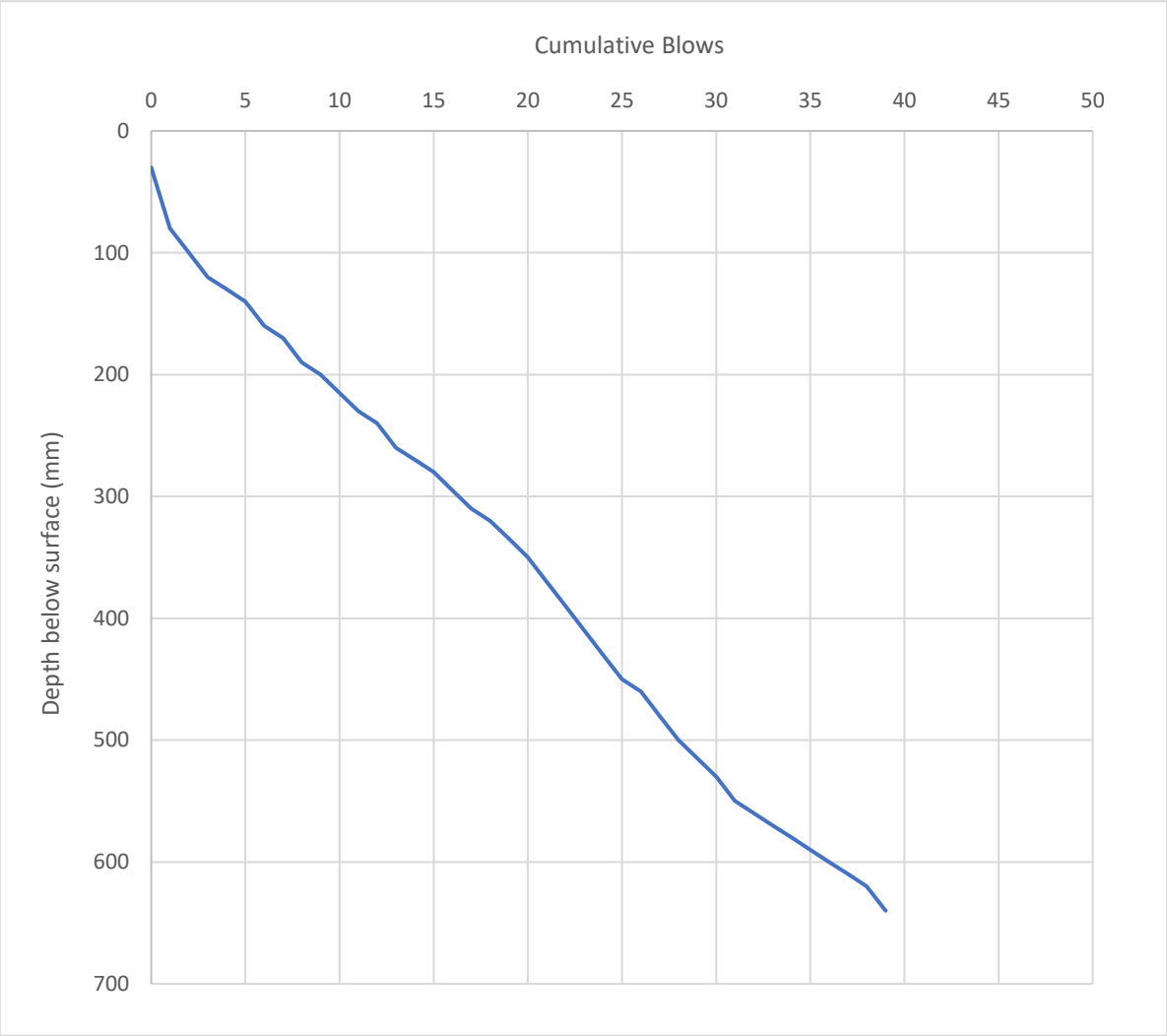
TRL equation: Log_{10} = 2.48 - 1.057 x Log10 (mm/blow)

Layer No	Layer Depth (m)		Penetration rate (mm/blow)	Equivalent CBR (%)
	Start	Finish		
1	0.03	0.27	14.11	18
2	0.27	0.43	9.41	28
3	0.43	1.00	15.40	17
4				
5				

TRL DCP Test Results

Project Number:	C4164	**Project Name:**	St Joseph Norton
Test Location:	TRL03 Next to BH07	**Date:**	15/02/2023
Start Depth (mmbgl)	0	**Test Completed By**	NC

Determination of Equivalent CBR using TRL Dynamic Cone Penetrometer DCP CBR Relationship based on Kleyn & Van Heerden (60° Cone) - TRL, CS 229



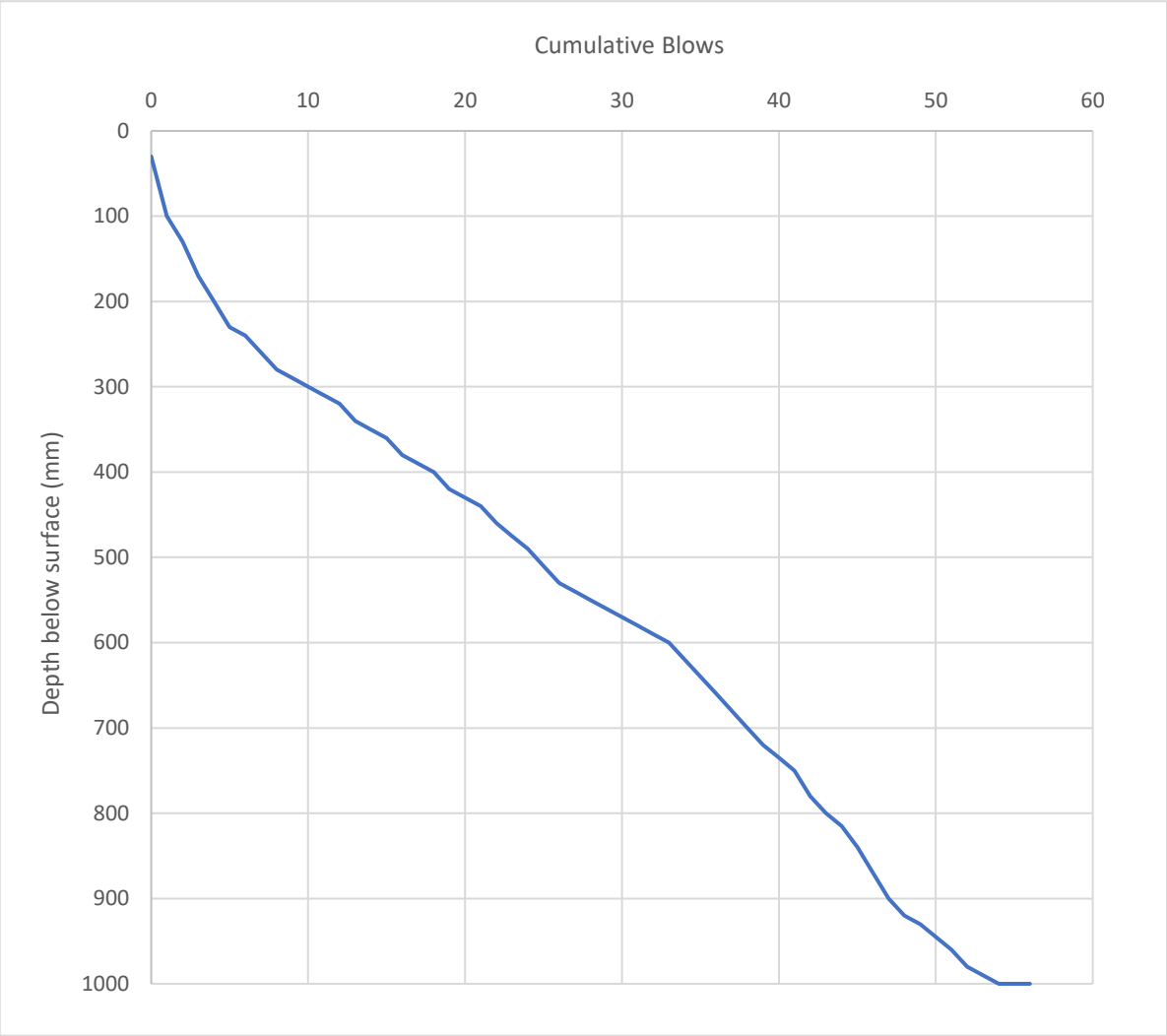
TRL equation: Log_{10} = 2.48 - 1.057 x Log10 (mm/blow)

Layer No	Layer Depth (m)		Penetration rate (mm/blow)	Equivalent CBR (%)
	Start	Finish		
1	0.03	0.10	23.33	11
2	0.10	0.60	14.70	18
3	0.60	0.75	15.00	17
4				
5				

TRL DCP Test Results

Project Number:	C4164	**Project Name:**	St Joseph Norton
Test Location:	TRL04 Next to BH10	**Date:**	15/02/2023
Start Depth (mmbgl)	0	**Test Completed By**	NC

Determination of Equivalent CBR using TRL Dynamic Cone Penetrometer DCP CBR Relationship based on Kleyn & Van Heerden (60° Cone) - TRL, CS 229



TRL equation: Log_{10} = 2.48 - 1.057 x Log10 (mm/blow)

Layer No	Layer Depth (m)		Penetration rate (mm/blow)	Equivalent CBR (%)
	Start	Finish		
1	0.03	0.29	33.33	7
2	0.29	1.00	15.90	16
3				
4				
5				

Appendix VIII

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK1

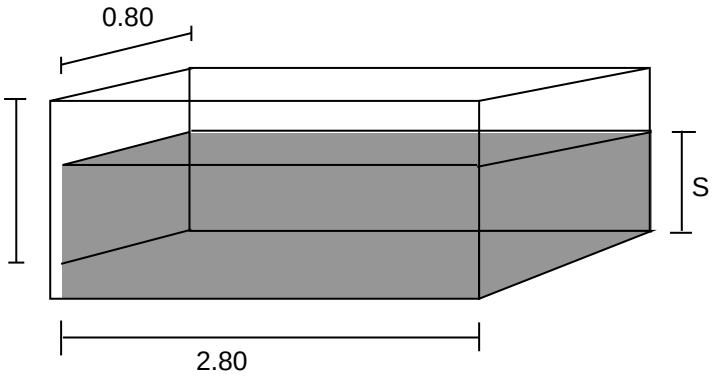
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.40	MADE GROUND - Scrub overlying dark brown sandy slightly gravelly clayey topsoil.
0.40	1.20	MADE GROUND - Light reddish brown sandy very gravelly clay with cobble content.
1.20	2.30	CLAY - Soft yellowish brown slightly sandy very gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

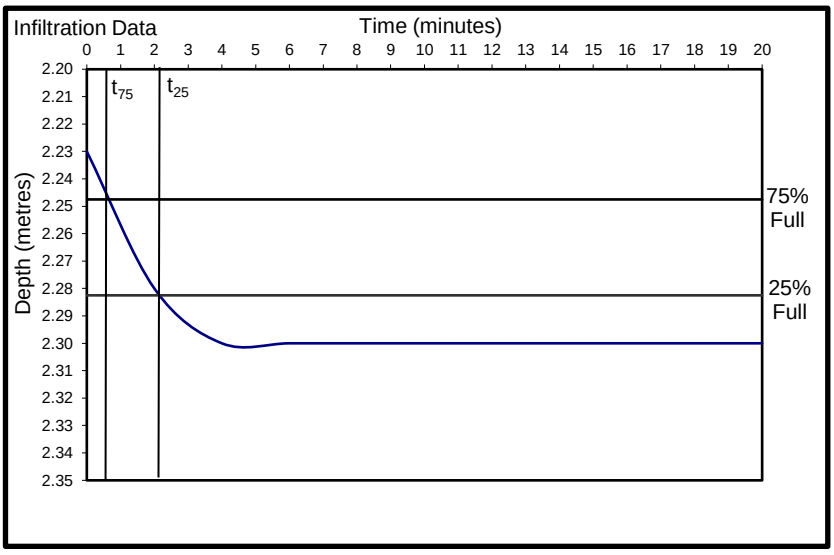
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.23 to 2.30m.
No Groundwater was encountered



Gives the Figures

S=	0.07	m
a_{p50}=	2.49	m^2
V_{p75-25}=	0.08	m^3

Soakaway Test Run 1 Test Date: 07/02/2023



Time (minutes)	Depth (m)
0	2.23
2	2.28
4	2.30
6	2.30
8	2.30
10	2.30
20	2.30

From the above graph,

t_{p25}= 0.6 (min) $t_{p75=}$ 2.2 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.38E-04 f_{run1}= 1.38×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK1

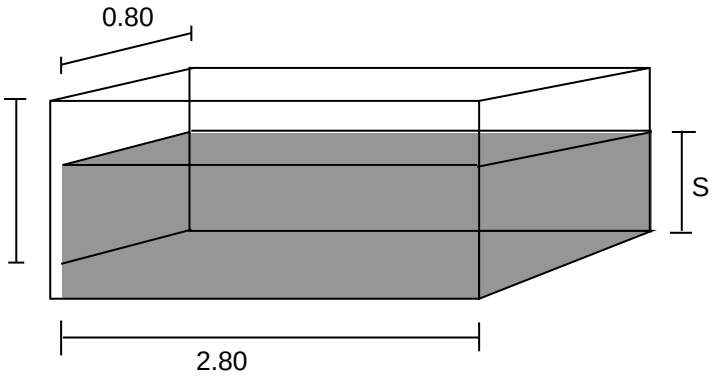
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.40	MADE GROUND - Scrub overlying dark brown sandy slightly gravelly clayey topsoil.
0.40	1.20	MADE GROUND - Light reddish brown sandy very gravelly clay with cobble content.
1.20	2.30	CLAY - Soft yellowish brown slightly sandy very gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

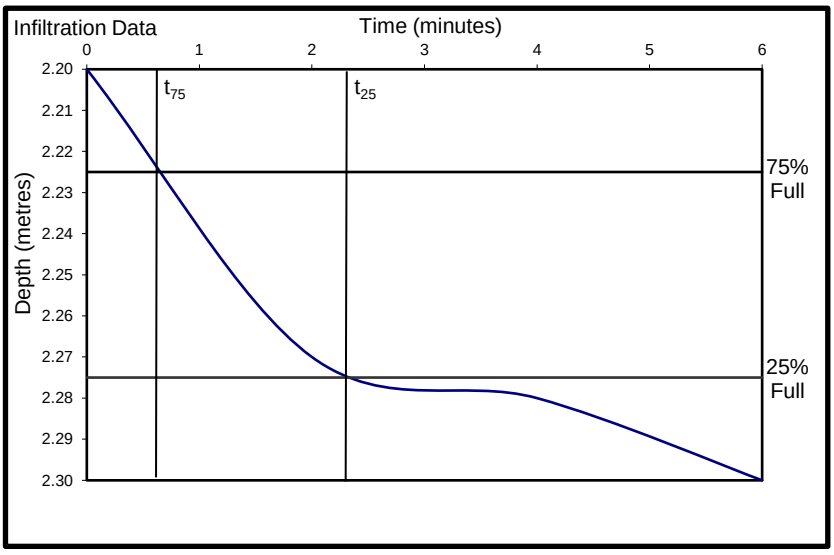
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.20 to 2.30m.
No Groundwater was encountered



Gives the Figures

S=	0.10	m
a_{p50}=	2.60	m^2
V_{p75-25}=	0.11	m^3

Soakaway Test Run 2 **Test Date: 07/02/2023**



Time (minutes)	Depth (m)
0	2.20
2	2.27
4	2.28
6	2.30

From the above graph,

t_{p25}= 0.7 (min) $t_{p75=}$ 2.4 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.77E-04 f_{run1}= 1.77×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK1

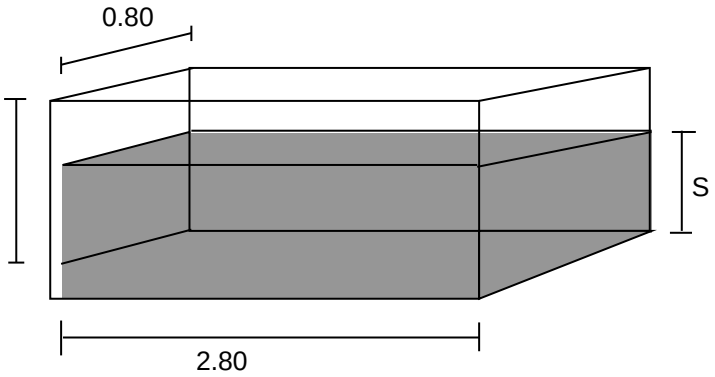
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.40	MADE GROUND - Scrub overlying dark brown sandy slightly gravelly clayey topsoil.
0.40	1.20	MADE GROUND - Light reddish brown sandy very gravelly clay with cobble content.
1.20	2.30	CLAY - Soft yellowish brown slightly sandy very gravelly clay.

Sketch plan of test zone

Not to scale
All dimensions in metres.

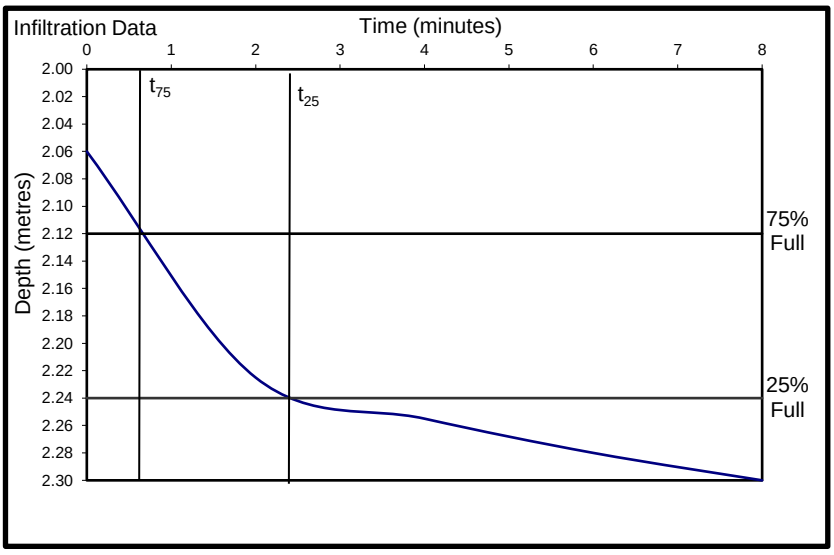
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 2.06 to 2.30m.
No Groundwater was encountered



Gives the Figures

S=	0.24	m
a_{p50}=	3.10	m^2
V_{p75-25}=	0.27	m^3

Soakaway Test Run 3 Test Date: 08/02/2023



Time (minutes)	Depth (m)
0	2.06
2	2.23
4	2.26
6	2.28
8	2.30

From the above graph,

t_{p25}= 0.8 (min) $t_{p75=}$ 2.5 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 3.57E-04 f_{run1}= 3.57×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK2

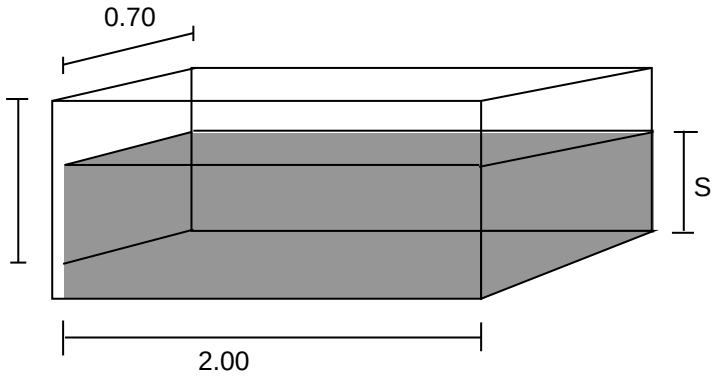
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.05	MADE GROUND - Asphalt concrete.
0.05	0.40	MADE GROUND - Black slightly clayey sandy gravel.
0.40	1.55	CLAY - Firm yellowish brown slightly sandy gravelly clay with cobble content.

Sketch plan of test zone

Not to scale
All dimensions in metres.

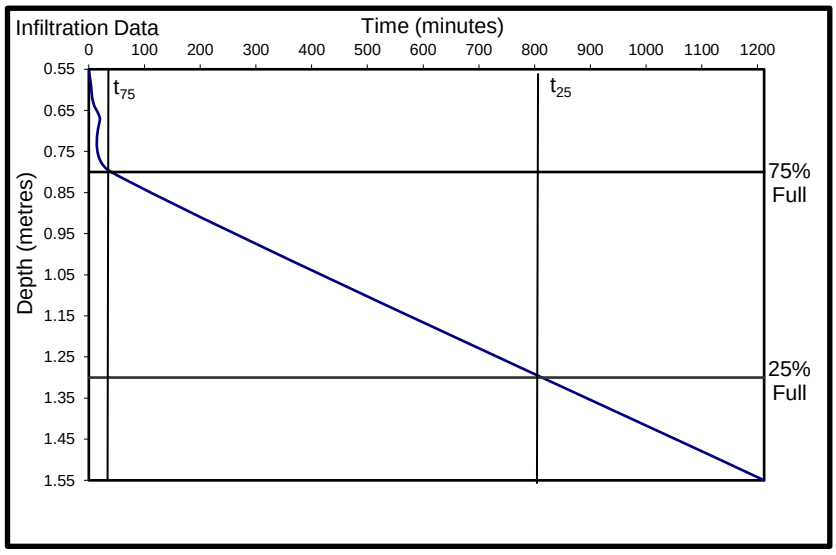
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.55 to 1.55m.
No Groundwater was encountered



Gives the Figures

S=	1.00	m
a_{p50}=	4.10	m^2
V_{p75-25}=	0.70	m^3

Soakaway Test Run 1 Test Date: 07/02/2023



Time (minutes)	Depth (m)
0	0.55
2	0.57
4	0.59
6	0.62
8	0.63
10	0.64
20	0.67
40	0.80
1212	1.55

From the above graph,

t_{p25}= 40 (min) $t_{p75=}$ 825 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.52E-06 f_{run1}= 1.52×10^{-6} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

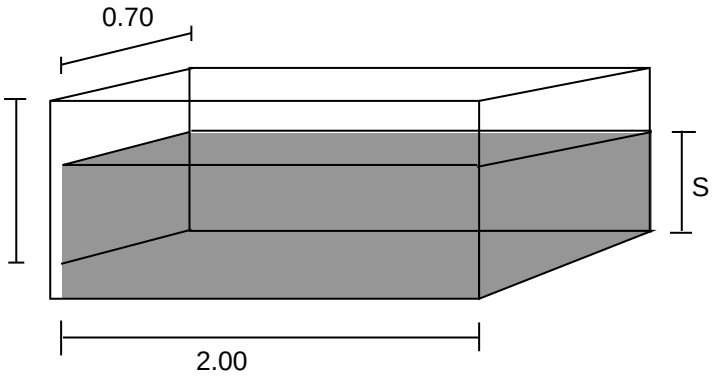
Trialpit No.: SK2

Soil Profile:

Depth (m) From:	To:	Description
0.00	0.05	MADE GROUND - Asphalt concrete.
0.05	0.40	MADE GROUND - Black slightly clayey sandy gravel.
0.40	1.55	CLAY - Firm yellowish brown slightly sandy gravelly clay with cobble content.

Sketch plan of test zone

Not to scale
All dimensions in metres.

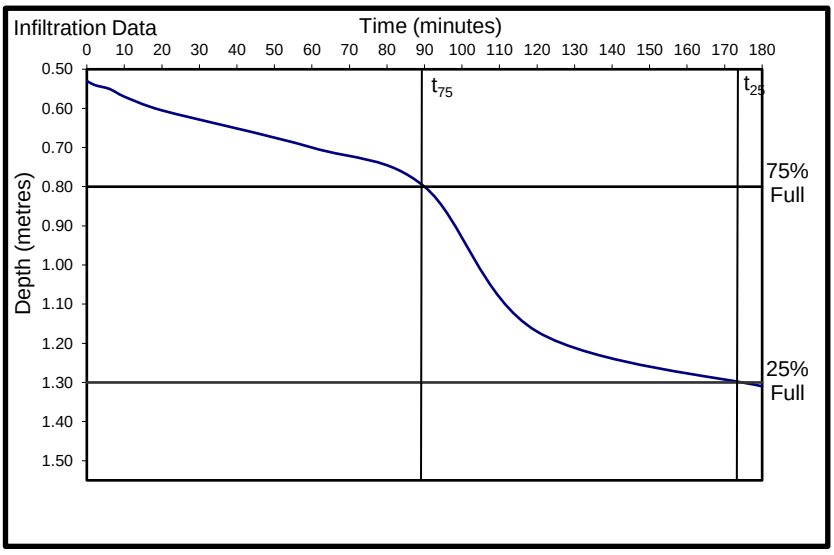


porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.55 to 1.55m.
No Groundwater was encountered

Gives the Figures

S=	1.00	m
a_{p50}=	4.10	m^2
V_{p75-25}=	0.70	m^3

Soakaway Test Run 2 Test Date: 08/02/2023



Time (minutes)	Depth (m)
0	0.53
2	0.54
4	0.55
6	0.55
8	0.56
10	0.57
20	0.61
60	0.70
90	0.80
120	1.17
180	1.31

From the above graph,

t_{p25}= 90 (min) t_{p75}= 175 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.41E-05 f_{run1}= 1.41×10^{-5} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

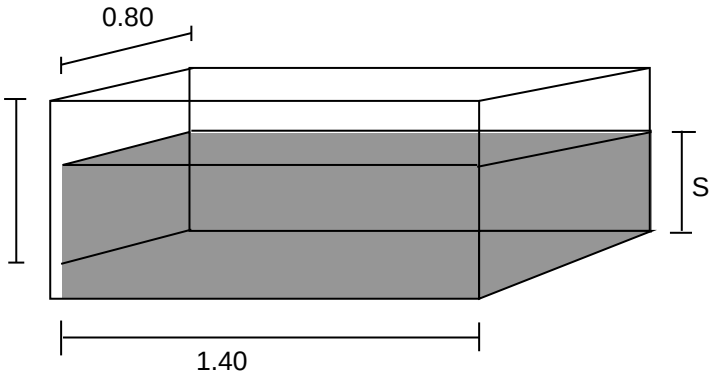
Trialpit No.: SK3

Soil Profile:

Depth (m) From:	To:	Description
0.00	0.02	MADE GROUND - Asphalt concrete.
0.02	0.30	MADE GROUND - Yellowish sandy slightly clayey gravel.
0.30	1.30	Soft yellowish brown sandy very gravelly CLAY.

Sketch plan of test zone

Not to scale
All dimensions in metres.



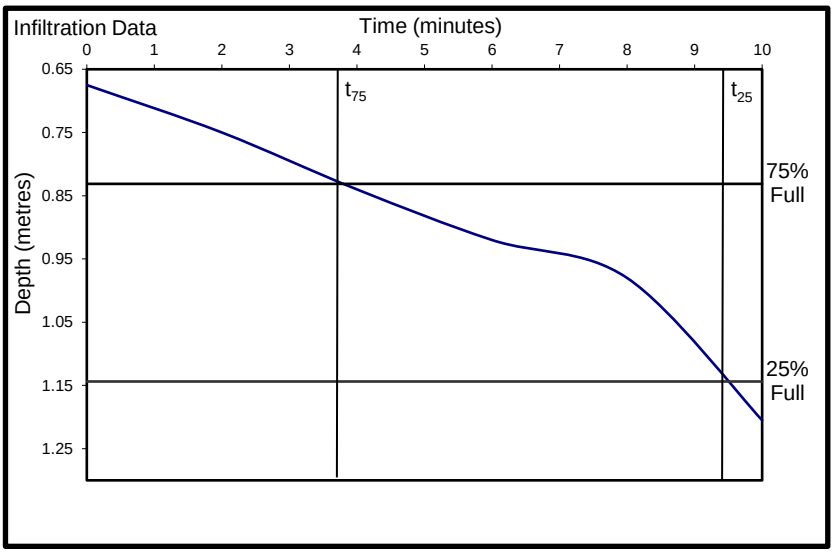
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m) 1.30
Water level from 0.675 to 1.30m.
No Groundwater was encountered

Gives the Figures

S=	0.63	m
a_{p50}=	2.50	m^2
V_{p75-25}=	0.35	m^3

Soakaway Test Run 1 **Test Date: 07/02/2023**

Time (minutes)	Depth (m)
0	0.675
2	0.75
4	0.84
6	0.92
8	0.98
10	1.21



From the above graph,

t_{p25}= 3.75 (min) $t_{p75=}$ 9.5 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.71E-04 f_{run1}= 1.71×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK3

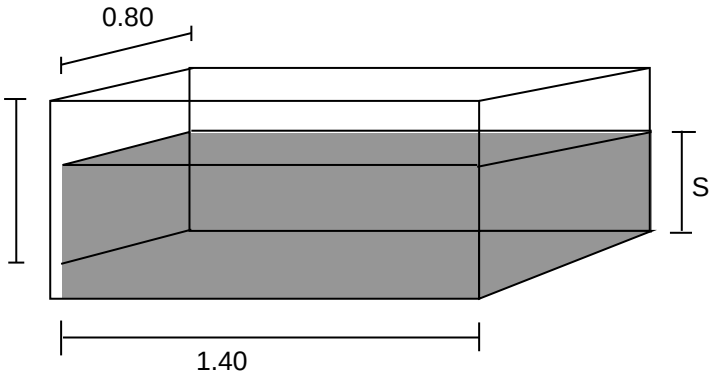
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.02	MADE GROUND - Asphalt concrete.
0.02	0.30	MADE GROUND - Yellowish sandy slightly clayey gravel.
0.30	1.30	Soft yellowish brown sandy very gravelly CLAY.

Sketch plan of test zone

Not to scale
All dimensions in metres.

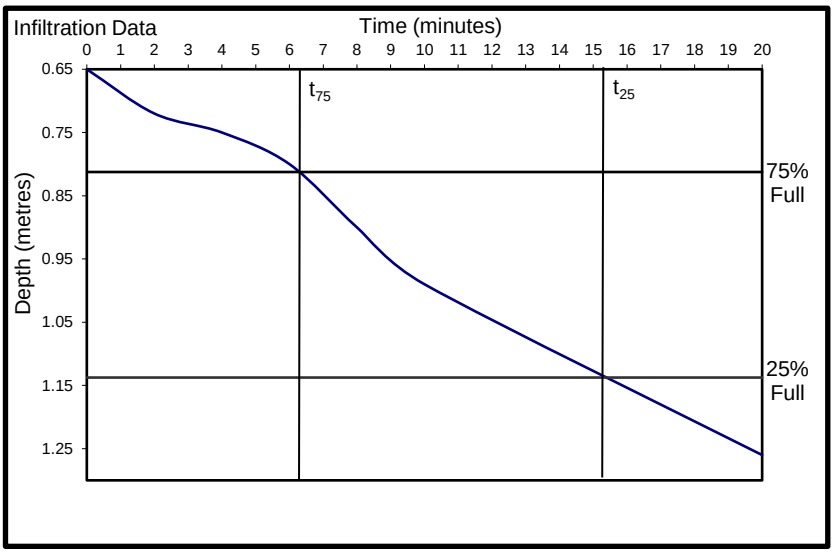
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.65 to 1.30m.
No Groundwater was encountered



Gives the Figures

S=	0.65	m
a_{p50}=	2.55	m^2
V_{p75-25}=	0.36	m^3

Soakaway Test Run 2 Test Date: 08/02/2023



Time (minutes)	Depth (m)
0	0.65
2	0.72
4	0.75
6	0.80
8	0.90
10	0.99
20	1.26

From the above graph,

t_{p25}= 6.3 (min) $t_{p75=}$ 15.5 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 1.09E-04 f_{run1}= 1.09×10^{-4} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

INSITU SOAKAWAY TEST RESULTS

Trialpit No.: SK3

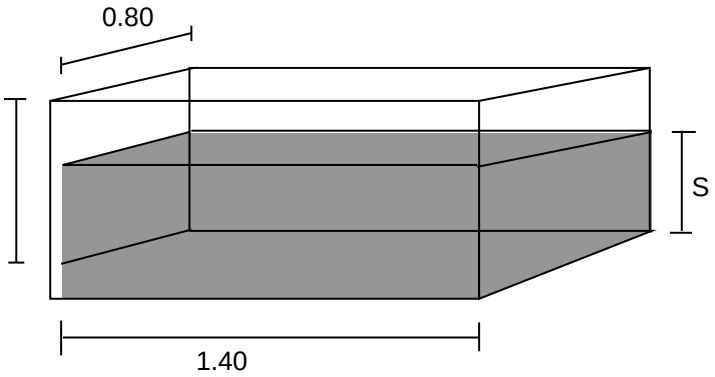
Soil Profile:

Depth (m) From:	To:	Description
0.00	0.02	MADE GROUND - Asphalt concrete.
0.02	0.30	MADE GROUND - Yellowish sandy slightly clayey gravel.
0.30	1.30	Soft yellowish brown sandy very gravelly CLAY.

Sketch plan of test zone

Not to scale
All dimensions in metres.

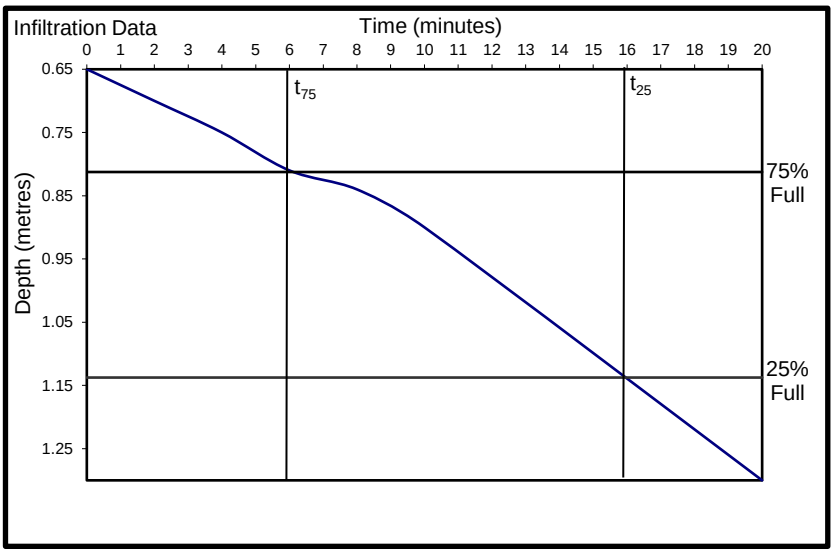
porosity (N) = 0.42
(measured in laboratory)
S= Storage depth (m)
Water level from 0.65 to 1.30m.
No Groundwater was encountered



Gives the Figures

S=	0.65	m
a_{p50}=	2.55	m^2
V_{p75-25}=	0.36	m^3

Soakaway Test Run 3 Test Date: 08/02/2023



Time (minutes)	Depth (m)
0	0.65
2	0.70
4	0.75
6	0.81
8	0.84
10	0.90
20	1.30

From the above graph,

t_{p25}= 6 (min) $t_{p75=}$ 16 (min)

Soil Infiltration Rate: $f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}}$ = 9.99E-05 f_{run1}= 9.99×10^{-5} m/s

Test and analysis carried out in general accordance with BRE Digest 365 : 2016

Job No.: C4164
Site: St Joseph Norton School, Huddersfield
Client: Frank Shaw Associates Ltd

hsp consulting

Appendix IX

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.3	<0.1	<0.1	17.1	0.7	<1	<1		3.05	2.05
00:15	0.3	<0.1	<0.1	18.7	0.5	<1	<1			
00:30	0.3	<0.1	<0.1	19.0	0.4	<1	<1			
00:45	0.3	<0.1	<0.1	19.0	0.4	<1	<1			
01:00	0.3	<0.1	<0.1	19.0	0.4	<1	<1			
01:15	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
01:30	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
01:45	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
02:00	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
02:15	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
02:30	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
02:45	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
03:00	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
03:15	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
03:30	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
03:45	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
04:00	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
04:15	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
04:30	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
04:45	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
05:00	0.3	<0.1	<0.1	19.1	0.4	<1	<1			
Steady	**0.3**	**<0.1**	**<0.1**	**19.1**	**0.4**	**<1**	**<1**	#####	**3.05**	**2.05**
Peak	**0.3**	**0.0**	**0.0**	**19.1**	**0.7**	**0.0**	**0.0**	**0.0**	**3.05**	**2.05**

Date	Notes:			
01/12/2022	Engineer	NC	Barometric Pressure, mbar	1028
			Pressure Trend	Steady
	Equipment	GFM436	Air Temp (˚C)	6

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS03

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.3	<0.1	<0.1	19.3	0.7	<1	<1		2.05	1.43
00:15	0.3	<0.1	<0.1	16.6	0.7	<1	<1			
00:30	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
00:45	0.3	<0.1	<0.1	15.7	0.7	<1	<1			
01:00	0.3	<0.1	<0.1	15.7	0.7	<1	<1			
01:15	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
01:30	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
01:45	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
02:00	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
02:15	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
02:30	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
02:45	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
03:00	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
03:15	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
03:30	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
03:45	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
04:00	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
04:15	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
04:30	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
04:45	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
05:00	0.3	<0.1	<0.1	15.6	0.7	<1	<1			
Steady	**0.3**	**<0.1**	**<0.1**	**15.6**	**0.7**	**<1**	**<1**	**#####**	**2.05**	**1.43**
Peak	**0.3**	**0.0**	**0.0**	**19.3**	**0.7**	**0.0**	**0.0**	**0.0**	**2.05**	**1.43**

Date	Notes:			
01/12/2022	Engineer	NC	Barometric Pressure, mbar	1028
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	6

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS07

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	<0.1	<0.1	<0.1	18.1	2.5	<1	<1		4.05	4.00
00:15	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
00:30	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
00:45	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
01:00	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
01:15	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
01:30	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
01:45	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
02:00	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:15	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:30	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
02:45	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:00	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:15	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
03:30	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
03:45	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:00	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:15	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
04:30	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
04:45	<0.1	<0.1	<0.1	19.7	0.7	<1	<1			
05:00	<0.1	<0.1	<0.1	19.6	0.7	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**19.6**	**0.7**	**<1**	**<1**	#####	**4.05**	**4.00**
Peak	**0.0**	**0.0**	**0.0**	**19.7**	**2.5**	**0.0**	**0.0**	**0.0**	**4.05**	**4.00**

Date	Notes:			
01/12/2022	Engineer	NC	Barometric Pressure, mbar	1028
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	6

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	0.1	<0.1	<0.1	19.6	0.1	<1	<1		3.05	2.70
00:15	0.1	<0.1	<0.1	18.2	2.5	<1	<1			
00:30	0.1	<0.1	<0.1	17.5	2.6	<1	<1			
00:45	0.1	<0.1	<0.1	17.4	2.5	<1	<1			
01:00	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
01:15	0.1	<0.1	<0.1	17.3	2.6	<1	<1			
01:30	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
01:45	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
02:00	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
02:15	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
02:30	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
02:45	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
03:00	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
03:15	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
03:30	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
03:45	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
04:00	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
04:15	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
04:30	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
04:45	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
05:00	0.1	<0.1	<0.1	17.3	2.7	<1	<1			
Steady	**0.1**	**<0.1**	**<0.1**	**17.3**	**2.7**	**<1**	**<1**	#####	**3.05**	**2.70**
Peak	**0.1**	**0.0**	**0.0**	**19.6**	**2.7**	**0.0**	**0.0**	**0.0**	**3.05**	**2.70**

Date	Notes:			
01/12/2022	Engineer	NC	Barometric Pressure, mbar	1028
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	6

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.3	<0.1	<0.1	16.6	0.7	<1	<1		3.05	2.05
00:15	0.3	<0.1	<0.1	18.5	0.7	<1	<1			
00:30	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
00:45	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
01:00	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
01:15	0.3	<0.1	<0.1	19.0	0.8	<1	<1			
01:30	0.3	<0.1	<0.1	19.0	0.8	<1	<1			
01:45	0.3	<0.1	<0.1	19.0	0.8	<1	<1			
02:00	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
02:15	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
02:30	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
02:45	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
03:00	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
03:15	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
03:30	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
03:45	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
04:00	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
04:15	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
04:30	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
04:45	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
05:00	0.3	<0.1	<0.1	19.0	0.7	<1	<1			
Steady	**0.3**	**<0.1**	**<0.1**	**19.0**	**0.7**	**<1**	**<1**	#####	**3.05**	**2.05**
Peak	**0.3**	**0.0**	**0.0**	**19.0**	**0.8**	**0.0**	**0.0**	**0.0**	**3.05**	**2.05**

Date	Notes:			
09/12/2022	Engineer	NC	Barometric Pressure, mbar	1008
			Pressure Trend	Steady
	Equipment	GFM436	Air Temp (˚C)	-2

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS03

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	18.0	0.8	<1	<1		2.05	1.48
00:15	<0.1	<0.1	<0.1	16.8	0.7	<1	<1			
00:30	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
00:45	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
01:00	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
01:15	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
01:30	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
01:45	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
02:00	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
02:15	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
02:30	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
02:45	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
03:00	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
03:15	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
03:30	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
03:45	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
04:00	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
04:15	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
04:30	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
04:45	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
05:00	<0.1	<0.1	<0.1	16.1	0.7	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**16.1**	**0.7**	**<1**	**<1**	#####	**2.05**	**1.48**
Peak	**0.1**	**0.0**	**0.0**	**18.0**	**0.8**	**0.0**	**0.0**	**0.0**	**2.05**	**1.48**

Date	Notes:			
09/12/2022	Engineer	NC	Barometric Pressure, mbar	1008
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	-2

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS07

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	0.1	<0.1	<0.1	17.4	2.8	<1	<1		4.05	4.00
00:15	0.1	<0.1	<0.1	17.9	0.8	<1	<1			
00:30	0.1	<0.1	<0.1	17.9	0.8	<1	<1			
00:45	0.1	<0.1	<0.1	17.9	0.8	<1	<1			
01:00	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
01:15	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
01:30	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
01:45	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
02:00	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
02:15	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
02:30	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
02:45	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
03:00	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
03:15	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
03:30	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
03:45	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
04:00	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
04:15	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
04:30	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
04:45	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
05:00	0.3	<0.1	<0.1	17.9	0.8	<1	<1			
Steady	**0.3**	**<0.1**	**<0.1**	**17.9**	**0.8**	**<1**	**<1**	#####	**4.05**	**4.00**
Peak	**0.3**	**0.0**	**0.0**	**17.9**	**2.8**	**0.0**	**0.0**	**0.0**	**4.05**	**4.00**

Date	Notes:			
09/12/2022	Engineer	NC	Barometric Pressure, mbar	1008
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	-2

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	18.9	0.2	<1	<1		3.05	2.82
00:15	<0.1	<0.1	<0.1	17.3	2.9	<1	<1			
00:30	<0.1	<0.1	<0.1	16.7	3.0	<1	<1			
00:45	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
01:00	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
01:15	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
01:30	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
01:45	<0.1	<0.1	<0.1	16.5	3.1	<1	<1			
02:00	<0.1	<0.1	<0.1	16.5	3.1	<1	<1			
02:15	<0.1	<0.1	<0.1	16.5	3.1	<1	<1			
02:30	<0.1	<0.1	<0.1	16.5	3.1	<1	<1			
02:45	<0.1	<0.1	<0.1	16.5	3.1	<1	<1			
03:00	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
03:15	<0.1	<0.1	<0.1	16.6	3.1	<1	<1			
03:30	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
03:45	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
04:00	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
04:15	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
04:30	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
04:45	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
05:00	<0.1	<0.1	<0.1	16.6	3.0	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**16.6**	**3.0**	**<1**	**<1**	#####	**3.05**	**2.82**
Peak	**0.0**	**0.0**	**0.0**	**18.9**	**3.1**	**0.0**	**0.0**	**0.0**	**3.05**	**2.82**

Date	Notes:			
09/12/2022	Engineer	NC	Barometric Pressure, mbar	1008
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	-2

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	0.1	<0.1	<0.1	17.1	0.6	<1	<1		3.05	2.10
00:15	0.3	<0.1	<0.1	19.6	0.7	<1	<1			
00:30	0.5	<0.1	<0.1	19.6	0.8	<1	<1			
00:45	<0.1	<0.1	<0.1	19.7	0.8	<1	<1			
01:00	<0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:15	0.9	<0.1	<0.1	19.6	0.8	<1	<1			
01:30	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
01:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:00	0.5	<0.1	<0.1	19.6	0.8	<1	<1			
02:15	<0.1	<0.1	<0.1	19.6	0.8	<1	<1			
02:30	0.3	<0.1	<0.1	19.6	0.8	<1	<1			
02:45	0.5	<0.1	<0.1	19.6	0.8	<1	<1			
03:00	0.9	<0.1	<0.1	19.6	0.8	<1	<1			
03:15	<0.1	<0.1	<0.1	19.6	0.8	<1	<1			
03:30	0.3	<0.1	<0.1	19.6	0.8	<1	<1			
03:45	0.5	<0.1	<0.1	19.6	0.8	<1	<1			
04:00	0.9	<0.1	<0.1	19.6	0.8	<1	<1			
04:15	<0.1	<0.1	<0.1	19.6	0.8	<1	<1			
04:30	0.3	<0.1	<0.1	19.6	0.8	<1	<1			
04:45	0.1	<0.1	<0.1	19.6	0.8	<1	<1			
05:00	0.5	<0.1	<0.1	19.6	0.8	<1	<1			
Steady	**0.5**	**<0.1**	**<0.1**	**19.6**	**0.8**	**<1**	**<1**	#####	**3.05**	**2.10**
Peak	**0.9**	**0.0**	**0.0**	**19.7**	**0.8**	**0.0**	**0.0**	**0.0**	**3.05**	**2.10**

Date	Notes:			
20/12/2022	Engineer	NC	Barometric Pressure, mbar	1003
			Pressure Trend	Steady
	Equipment	GFM436-	Air Temp (˚C)	8

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS03

	Detection Limit								
	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	<0.1	<0.1	<0.1	19.5	0.6	<1	<1		2.05	1.25
00:15	<0.1	<0.1	<0.1	14.6	0.6	<1	<1			
00:30	<0.1	<0.1	<0.1	14.3	0.6	<1	<1			
00:45	<0.1	<0.1	<0.1	14.2	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
01:15	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
01:30	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
01:45	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
02:00	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
02:30	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
02:45	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
03:00	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
03:15	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
03:30	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
03:45	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
04:00	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
04:15	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
04:30	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
05:00	<0.1	<0.1	<0.1	14.1	0.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**14.1**	**0.6**	**<1**	**<1**	**#####**	**2.05**	**1.25**
Peak	**0.0**	**0.0**	**0.0**	**19.5**	**0.6**	**0.0**	**0.0**	**0.0**	**2.05**	**1.25**

Date	Notes:			
20/12/2022	Engineer	NC	Barometric Pressure, mbar	1003
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS07

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	18.1	2.7	<1	<1		4.05	4.00
00:15	<0.1	<0.1	<0.1	19.6	0.8	<1	<1			
00:30	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
00:45	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:15	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:30	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
01:45	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
02:00	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
02:30	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
02:45	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
03:00	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
03:15	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
03:30	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
03:45	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
04:00	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
04:15	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
04:30	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
05:00	<0.1	<0.1	<0.1	19.8	0.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**19.8**	**0.6**	**<1**	**<1**	**#####**	**4.05**	**4.00**
Peak	**0.0**	**0.0**	**0.0**	**19.8**	**2.7**	**0.0**	**0.0**	**0.0**	**4.05**	**4.00**

Date	Notes:		Barometric Pressure, mbar	1003
20/12/2022	Engineer	NC	Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	0.1	<0.1	<0.1	17.7	2.2	<1	<1		3.05	2.80
00:15	0.3	<0.1	<0.1	17.2	2.8	<1	<1			
00:30	0.6	<0.1	<0.1	16.9	2.9	<1	<1			
00:45	0.6	<0.1	<0.1	16.9	2.9	<1	<1			
01:00	0.6	<0.1	<0.1	16.8	2.8	<1	<1			
01:15	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
01:30	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
01:45	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
02:00	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
02:15	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
02:30	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
02:45	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
03:00	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
03:15	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
03:30	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
03:45	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
04:00	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
04:15	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
04:30	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
04:45	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
05:00	0.6	<0.1	<0.1	16.8	2.9	<1	<1			
Steady	**0.6**	**<0.1**	**<0.1**	**16.8**	**2.9**	**<1**	**<1**	#####	**3.05**	**2.80**
Peak	**0.6**	**0.0**	**0.0**	**17.7**	**2.9**	**0.0**	**0.0**	**0.0**	**3.05**	**2.80**

Date	Notes:			
20/12/2022	Engineer	NC	Barometric Pressure, mbar	1003
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	<0.1	<0.1	<0.1	15.5	0.6	<1	<1		3.05	1.95
00:15	<0.1	<0.1	<0.1	18.0	0.2	<1	<1			
00:30	-0.1	<0.1	<0.1	18.6	0.2	<1	<1			
00:45	-0.1	<0.1	<0.1	18.6	0.2	<1	<1			
01:00	<0.1	<0.1	<0.1	18.6	0.2	<1	<1			
01:15	-0.1	<0.1	<0.1	18.7	0.2	<1	<1			
01:30	-0.3	<0.1	<0.1	18.7	0.2	<1	<1			
01:45	-0.1	<0.1	<0.1	18.7	0.2	<1	<1			
02:00	-0.3	<0.1	<0.1	18.7	0.2	<1	<1			
02:15	-0.1	<0.1	<0.1	18.7	0.2	<1	<1			
02:30	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
02:45	-0.1	<0.1	<0.1	18.7	0.2	<1	<1			
03:00	-0.3	<0.1	<0.1	18.7	0.2	<1	<1			
03:15	-0.1	<0.1	<0.1	18.7	0.2	<1	<1			
03:30	0.1	<0.1	<0.1	18.7	0.2	<1	<1			
03:45	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
04:00	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
04:15	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
04:30	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
04:45	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
05:00	<0.1	<0.1	<0.1	18.7	0.2	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**18.7**	**0.2**	**<1**	**<1**	**#####**	**3.05**	**1.95**
Peak	**0.1**	**0.0**	**0.0**	**18.7**	**0.6**	**0.0**	**0.0**	**0.0**	**3.05**	**1.95**

Date	Notes:			
06/01/2023	Engineer	NC	Barometric Pressure, mbar	1010
			Pressure Trend	Falling
	Equipment	GFM436	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS03

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	-0.5	<0.1	<0.1	19.5	0.6	<1	<1		2.05	1.15
00:15	-0.7	<0.1	<0.1	14.0	0.6	<1	<1			
00:30	-0.5	<0.1	<0.1	12.6	0.6	<1	<1			
00:45	-0.5	<0.1	<0.1	12.6	0.6	<1	<1			
01:00	-0.7	<0.1	<0.1	12.5	0.6	<1	<1			
01:15	-0.5	<0.1	<0.1	12.4	0.6	<1	<1			
01:30	-0.5	<0.1	<0.1	12.4	0.6	<1	<1			
01:45	-0.3	<0.1	<0.1	12.3	0.6	<1	<1			
02:00	-0.3	<0.1	<0.1	12.4	0.6	<1	<1			
02:15	-0.5	<0.1	<0.1	12.3	0.6	<1	<1			
02:30	-0.5	<0.1	<0.1	12.3	0.6	<1	<1			
02:45	-0.3	<0.1	<0.1	12.3	0.6	<1	<1			
03:00	-0.5	<0.1	<0.1	12.3	0.6	<1	<1			
03:15	-0.7	<0.1	<0.1	12.3	0.6	<1	<1			
03:30	-0.3	<0.1	<0.1	12.3	0.6	<1	<1			
03:45	-0.1	<0.1	<0.1	12.3	0.6	<1	<1			
04:00	-0.5	<0.1	<0.1	12.3	0.6	<1	<1			
04:15	-0.3	<0.1	<0.1	12.3	0.6	<1	<1			
04:30	-0.1	<0.1	<0.1	12.3	0.6	<1	<1			
04:45	-0.1	<0.1	<0.1	12.3	0.6	<1	<1			
05:00	-0.3	<0.1	<0.1	12.3	0.6	<1	<1			
Steady	**-0.3**	**<0.1**	**<0.1**	**12.3**	**0.6**	**<1**	**<1**	#####	**2.05**	**1.15**
Peak	**-0.1**	**0.0**	**0.0**	**19.5**	**0.6**	**0.0**	**0.0**	**0.0**	**2.05**	**1.15**

Date	Notes:			
06/01/2023	Engineer	NC	Barometric Pressure, mbar	1010
			Pressure Trend	Falling
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number C4164
Project Name Joseph Norton SEMH
Client Frank Shaw Associates

WS07

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	-0.5	<0.1	<0.1	18.0	2.3	<1	<1		4.05	3.98
00:15	-0.5	<0.1	<0.1	19.4	0.6	<1	<1			
00:30	-0.3	<0.1	<0.1	19.8	0.6	<1	<1			
00:45	-0.3	<0.1	<0.1	19.9	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:15	-0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:30	-0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:45	-0.3	<0.1	<0.1	19.9	0.6	<1	<1			
02:00	-0.5	<0.1	<0.1	19.9	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:30	-0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:45	-2.1	<0.1	<0.1	19.9	0.6	<1	<1			
03:00	-0.3	<0.1	<0.1	19.9	0.6	<1	<1			
03:15	-0.5	<0.1	<0.1	19.9	0.6	<1	<1			
03:30	-0.7	<0.1	<0.1	19.9	0.6	<1	<1			
03:45	-0.7	<0.1	<0.1	19.9	0.6	<1	<1			
04:00	-0.5	<0.1	<0.1	19.9	0.6	<1	<1			
04:15	-0.3	<0.1	<0.1	19.9	0.6	<1	<1			
04:30	-0.1	<0.1	<0.1	19.9	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
05:00	-0.1	<0.1	<0.1	19.9	0.6	<1	<1			
Steady	**-0.1**	**<0.1**	**<0.1**	**19.9**	**0.6**	**<1**	**<1**	#####	**4.05**	**3.98**
Peak	**-0.1**	**0.0**	**0.0**	**19.9**	**2.3**	**0.0**	**0.0**	**0.0**	**4.05**	**3.98**

Date	Notes:			
06/01/2023	Engineer	NC	Barometric Pressure, mbar	1010
			Pressure Trend	Falling
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	19.2	0.3	<1	<1		3.05	2.30
00:15	<0.1	<0.1	<0.1	17.9	2.3	<1	<1			
00:30	<0.1	<0.1	<0.1	17.4	2.4	<1	<1			
00:45	<0.1	<0.1	<0.1	17.3	2.4	<1	<1			
01:00	<0.1	<0.1	<0.1	17.3	2.4	<1	<1			
01:15	<0.1	<0.1	<0.1	17.3	2.4	<1	<1			
01:30	-0.1	<0.1	<0.1	17.3	2.4	<1	<1			
01:45	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
02:00	-0.5	<0.1	<0.1	17.3	2.4	<1	<1			
02:15	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
02:30	-0.5	<0.1	<0.1	17.3	2.4	<1	<1			
02:45	-0.5	<0.1	<0.1	17.3	2.4	<1	<1			
03:00	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
03:15	<0.1	<0.1	<0.1	17.3	2.4	<1	<1			
03:30	-0.1	<0.1	<0.1	17.3	2.4	<1	<1			
03:45	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
04:00	<0.1	<0.1	<0.1	17.3	2.4	<1	<1			
04:15	-0.1	<0.1	<0.1	17.3	2.4	<1	<1			
04:30	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
04:45	-0.1	<0.1	<0.1	17.3	2.4	<1	<1			
05:00	-0.3	<0.1	<0.1	17.3	2.4	<1	<1			
Steady	**-0.3**	**<0.1**	**<0.1**	**17.3**	**2.4**	**<1**	**<1**	#####	**3.05**	**2.30**
Peak	**-0.1**	**0.0**	**0.0**	**19.2**	**2.4**	**0.0**	**0.0**	**0.0**	**3.05**	**2.30**

Date	Notes:			
06/01/2023	Engineer	NC	Barometric Pressure, mbar	1010
			Pressure Trend	Falling
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

	Detection Limit								
	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	<0.1	<0.1	<0.1	16.0	0.7	<1	<1		3.05	2.02
00:15	<0.1	<0.1	<0.1	17.9	0.6	<1	<1			
00:30	<0.1	<0.1	<0.1	18.5	0.4	<1	<1			
00:45	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
01:00	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
01:15	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
01:30	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
01:45	<0.1	<0.1	<0.1	18.7	0.4	<1	<1			
02:00	<0.1	<0.1	<0.1	18.7	0.4	<1	<1			
02:15	<0.1	<0.1	<0.1	18.7	0.4	<1	<1			
02:30	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
02:45	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
03:00	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
03:15	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
03:30	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
03:45	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
04:00	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
04:15	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
04:30	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
04:45	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
05:00	<0.1	<0.1	<0.1	18.6	0.4	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**18.6**	**0.4**	**<1**	**<1**	#####	**3.05**	**2.02**
Peak	**0.0**	**0.0**	**0.0**	**18.7**	**0.7**	**0.0**	**0.0**	**0.0**	**3.05**	**2.02**

Date	Notes:			
19/01/2023	Engineer	NC	Barometric Pressure, mbar	1006
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	3

Gas Monitoring Certificate

Project Number C4164
Project Name Joseph Norton SEMH
Client Frank Shaw Associates

WS03

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	<0.1	<0.1	<0.1	19.4	0.6	<1	<1		2.05	1.30
00:15	<0.1	<0.1	<0.1	14.6	0.7	<1	<1			
00:30	<0.1	<0.1	<0.1	13.3	0.7	<1	<1			
00:45	<0.1	<0.1	<0.1	13.1	0.7	<1	<1			
01:00	<0.1	<0.1	<0.1	13.0	0.7	<1	<1			
01:15	<0.1	<0.1	<0.1	13.0	0.7	<1	<1			
01:30	<0.1	<0.1	<0.1	13.0	0.7	<1	<1			
01:45	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
02:00	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
02:15	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
02:30	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
02:45	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
03:00	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
03:15	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
03:30	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
03:45	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
04:00	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
04:15	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
04:30	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
04:45	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
05:00	<0.1	<0.1	<0.1	12.9	0.7	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**12.9**	**0.7**	**<1**	**<1**	**#####**	**2.05**	**1.30**
Peak	**0.0**	**0.0**	**0.0**	**19.4**	**0.7**	**0.0**	**0.0**	**0.0**	**2.05**	**1.30**

Date	Notes:			
19/01/2023	Engineer	NC	Barometric Pressure, mbar	1006
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	3

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS07

	Detection Limit								
	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	18.4	2.3	<1	<1		4.05	4.00
00:15	<0.1	<0.1	<0.1	19.5	0.6	<1	<1			
00:30	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
00:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:15	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:30	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
01:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:30	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
02:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
03:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
03:15	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
03:30	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
03:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
04:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
04:15	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
04:30	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
05:00	<0.1	<0.1	<0.1	19.9	0.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**19.9**	**0.6**	**<1**	**<1**	#####	**4.05**	**4.00**
Peak	**0.0**	**0.0**	**0.0**	**19.9**	**2.3**	**0.0**	**0.0**	**0.0**	**4.05**	**4.00**

Date	Notes:			
19/01/2023	Engineer	NC	Barometric Pressure, mbar	1006
			Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	3

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	19.4	0.6	<1	<1		3.05	2.65
00:15	<0.1	<0.1	<0.1	18.5	2.3	<1	<1			
00:30	<0.1	<0.1	<0.1	17.9	2.4	<1	<1			
00:45	<0.1	<0.1	<0.1	17.9	2.4	<1	<1			
01:00	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
01:15	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
01:30	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
01:45	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
02:00	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
02:15	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
02:30	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
02:45	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
03:00	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
03:15	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
03:30	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
03:45	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
04:00	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
04:15	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
04:30	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
04:45	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
05:00	<0.1	<0.1	<0.1	17.8	2.4	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**17.8**	**2.4**	**<1**	**<1**	#####	**3.05**	**2.65**
Peak	**0.0**	**0.0**	**0.0**	**19.4**	**2.4**	**0.0**	**0.0**	**0.0**	**3.05**	**2.65**

Date	Notes:		Barometric Pressure, mbar	1006
19/01/2023	Engineer	NC	Pressure Trend	Steady
	Equipment	GFM430	Air Temp (˚C)	3

Gas Monitoring Certificate

hsp consulting

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS01

	Detection Limit								
	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl
00:00	<0.1	<0.1	<0.1	19.2	0.5	<1	<1		3.05	1.98
00:15	<0.1	<0.1	<0.1	19.2	0.6	<1	<1			
00:30	<0.1	<0.1	<0.1	19.2	0.6	<1	<1			
00:45	<0.1	<0.1	<0.1	19.2	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:15	<0.1	<0.1	<0.1	19.2	0.6	<1	<1			
01:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
05:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**19.1**	**0.6**	**<1**	**<1**	**#####**	**3.05**	**1.98**
Peak	**0.0**	**0.0**	**0.0**	**19.2**	**0.6**	**0.0**	**0.0**	**0.0**	**3.05**	**1.98**

Date	Notes:			
07/02/2023	Engineer	NC	Barometric Pressure, mbar	1037
			Pressure Trend	STEADY
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS03

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	19.0	0.6	<1	<1		2.05	1.86
00:15	<0.1	<0.1	<0.1	13.5	1.1	<1	<1			
00:30	<0.1	<0.1	<0.1	13.4	1.1	<1	<1			
00:45	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
01:00	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
01:15	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
01:30	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
01:45	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
02:00	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
02:15	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
02:30	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
02:45	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
03:00	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
03:15	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
03:30	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
03:45	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
04:00	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
04:15	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
04:30	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
04:45	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
05:00	<0.1	<0.1	<0.1	13.3	1.1	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**13.3**	**1.1**	**<1**	**<1**	**#####**	**2.05**	**1.86**
Peak	**0.0**	**0.0**	**0.0**	**19.0**	**1.1**	**0.0**	**0.0**	**0.0**	**2.05**	**1.86**

Date	Notes:			
07/02/2023	Engineer	NC	Barometric Pressure, mbar	1037
			Pressure Trend	STEADY
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number	C4164
Project Name	Joseph Norton SEMH
Client	Frank Shaw Associates

WS07

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm)	Depth of Installation. (mbgl)	Depth of Groundwater (mbgl)
00:00	<0.1	<0.1	<0.1	19.7	0.1	<1	<1		4.05	3.96
00:15	<0.1	<0.1	<0.1	19.5	0.6	<1	<1			
00:30	<0.1	<0.1	<0.1	19.2	0.6	<1	<1			
00:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
01:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
02:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
03:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:15	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:30	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
04:45	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
05:00	<0.1	<0.1	<0.1	19.1	0.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**19.1**	**0.6**	**<1**	**<1**	**#####**	**4.05**	**3.96**
Peak	**0.0**	**0.0**	**0.0**	**19.7**	**0.6**	**0.0**	**0.0**	**0.0**	**4.05**	**3.96**

Date	Notes:			
07/02/2023	Engineer	NC	Barometric Pressure, mbar	1037
			Pressure Trend	STEADY
	Equipment	GFM430	Air Temp (˚C)	8

Gas Monitoring Certificate

Project Number C4164
Project Name Joseph Norton SEMH
Client Frank Shaw Associates

WS10

		Detection Limit								
		<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1		
Time	Gas Flow Rate. (l/hr)	Methane. (%LEL)	Methane. (%vol)	Oxygen. (%vol)	Carbon Dioxide. (%vol)	Hydrogen Sulphide. (ppm)	Carbon Monoxide. (ppm)	Volatile Organic Carbon (ppm	Depth of Installation. (mbgl)	Depth of Groundwater (mbg
00:00	<0.1	<0.1	<0.1	19.8	0.0	<1	<1		3.05	DRY
00:15	<0.1	<0.1	<0.1	18.2	3.0	<1	<1			
00:30	<0.1	<0.1	<0.1	17.8	2.6	<1	<1			
00:45	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
01:00	<0.1	<0.1	<0.1	17.6	2.4	<1	<1			
01:15	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
01:30	<0.1	<0.1	<0.1	17.4	2.5	<1	<1			
01:45	<0.1	<0.1	<0.1	17.7	2.7	<1	<1			
02:00	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
02:15	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
02:30	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
02:45	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
03:00	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
03:15	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
03:30	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
03:45	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
04:00	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
04:15	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
04:30	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
04:45	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
05:00	<0.1	<0.1	<0.1	17.6	2.6	<1	<1			
Steady	**<0.1**	**<0.1**	**<0.1**	**17.6**	**2.6**	**<1**	**<1**	**#####**	**3.05**	**DRY**
Peak	**0.0**	**0.0**	**0.0**	**19.8**	**3.0**	**0.0**	**0.0**	**0.0**	**3.05**	**0.00**

Date	Notes:			
07/02/2023	Engineer	NC	Barometric Pressure, mbar	1037
			Pressure Trend	STEADY
	Equipment	GFM430	Air Temp (˚C)	8

Appendix X

HazWasteOnline™

Waste Classification Report

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

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

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

U3SV4-N0USR-OXVOL

Job name

HWOL_22-45051-20230104 152557

Description/Comments

General suite of contaminants. Proposed educational facility on brownfield site (former school / recreational building)

Project

C4164

Site

Joseph Norton SEMH School

Classified by

Name:
Russell Corbyn
Date:
28 Feb 2023 14:16 GMT
Telephone:
01773 535 555

Company:
HSP Consulting Engineers Limited
Lawrence House
4 Meadowbank Way
Nottingham
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	Date
Hazardous Waste Classification	12 Sep 2017
Most recent 3 year Refresher	01 Dec 2020

Next 3 year Refresher due by Dec 2023

Purpose of classification

2 - Material Characterisation

Address of the waste

Land off Deighton Road, Deighton, Huddersfield **Post Code** N/A

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Development of an educational facility on brownfield site. Former school / recreational building demolished on site previously.

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

Waste likely to be created as part of excavations for foundations and likely landscaping to accommodate level changes.

Description of the waste

MADE GROUND TOPSOIL with range of anthropogenics. MADE GROUND demolition material (gravelly cobbly sand) with range of anthropogenics. Possibly some natural gravelly CLAYs (coal measures).

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01-17/11/2022-0.1	0.1	Non Hazardous		3
2	WS02-17/11/2022-0.2	0.2	Non Hazardous		6
3	WS02-17/11/2022-1.0	1.0	Non Hazardous		9
4	WS03-17/11/2022-0.15	0.15	Non Hazardous		10
5	WS03-17/11/2022-1.8	1.8	Non Hazardous		13
6	WS04-17/11/2022-0.2	0.2	Non Hazardous		14
7	WS05-17/11/2022-0.7	0.7	Non Hazardous		17
8	WS07-18/11/2022-0.3	0.3	Non Hazardous		20
9	WS07-18/11/2022-0.7	0.7	Non Hazardous		23
10	WS07-18/11/2022-2.5	2.5	Non Hazardous		26
11	WS08-18/11/2022-0.6	0.6	Non Hazardous		27
12	WS08-18/11/2022-1.0	1.0	Non Hazardous		30
13	WS08-18/11/2022-3.0	3.0	Non Hazardous		31
14	WS09-18/11/2022-0.1	0.1	Non Hazardous		32
15	WS09-18/11/2022-0.5	0.5	Unknown. Chemistry data not provided.		35
16	WS09-18/11/2022-1.0	1.0	Non Hazardous		36
17	WS10-18/11/2022-0.15	0.15	Non Hazardous		37
18	TP01	0.10	Non Hazardous		40
19	TP01[2]	0.50	Non Hazardous		42
20	TP02	0.20	Non Hazardous		44
21	TP02[2]	0.60	Non Hazardous		47
22	TP04	0.20	Hazardous	HP 7, HP 11	50
23	TP05	0.10	Non Hazardous		53

Related documents

#	Name	Description
1	HWOL_22-45051-20230104 152557.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: Russell Corbyn

Created date: 28 Feb 2023 14:16 GMT

Classification of sample: WS01-17/11/2022-0.1

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

Sample details

Sample name:
WS01-17/11/2022-0.1
Sample Depth:
0.1 m
Moisture content:
13%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	15.844 mg/kg	0.00158 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.32 mg/kg	1.142	0.366 mg/kg	0.0000366 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29 mg/kg	1.462	42.385 mg/kg	0.00424 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36 mg/kg	1.126	40.532 mg/kg	0.00405 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	62 mg/kg		62 mg/kg	0.0062 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.1 mg/kg		0.1 mg/kg	0.00001 %		
10	nickel { nickel(II) carbonate }	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]		20 mg/kg	2.022	40.448 mg/kg	0.00404 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.67 mg/kg	2.554	1.711 mg/kg	0.000171 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		78 mg/kg	1.245	97.088 mg/kg	0.00971 %		
13	TPH (C6 to C40) petroleum group			TPH		750 mg/kg		750 mg/kg	0.075 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		8.5	pH		8.5	pH	8.5 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		1	mg/kg		1	mg/kg	0.0001 %		
21		acenaphthylene		205-917-1	208-96-8		0.53	mg/kg		0.53	mg/kg	0.000053 %		
22		acenaphthene		201-469-6	83-32-9		2.7	mg/kg		2.7	mg/kg	0.00027 %		
23		fluorene		201-695-5	86-73-7		2.3	mg/kg		2.3	mg/kg	0.00023 %		
24		phenanthrene		201-581-5	85-01-8		22	mg/kg		22	mg/kg	0.0022 %		
25		anthracene		204-371-1	120-12-7		7.3	mg/kg		7.3	mg/kg	0.00073 %		
26		fluoranthene		205-912-4	206-44-0		40	mg/kg		40	mg/kg	0.004 %		
27		pyrene		204-927-3	129-00-0		34	mg/kg		34	mg/kg	0.0034 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		19	mg/kg		19	mg/kg	0.0019 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		18	mg/kg		18	mg/kg	0.0018 %		
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		25	mg/kg		25	mg/kg	0.0025 %		
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		8.7	mg/kg		8.7	mg/kg	0.00087 %		
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		24	mg/kg		24	mg/kg	0.0024 %		
33		indeno[123-cd]pyrene		205-893-2	193-39-5		14	mg/kg		14	mg/kg	0.0014 %		
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		2.2	mg/kg		2.2	mg/kg	0.00022 %		
35		benzo[ghi]perylene		205-883-8	191-24-2		12	mg/kg		12	mg/kg	0.0012 %		
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		24	mg/kg	1.785	42.844	mg/kg	0.00428 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.133 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.075%)

Classification of sample: WS02-17/11/2022-0.2

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

Sample details

Sample name:
WS02-17/11/2022-0.2
Sample Depth:
0.2 m
Moisture content:
13%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.6 mg/kg	1.32	11.355 mg/kg	0.00114 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.51 mg/kg	3.22	1.642 mg/kg	0.000164 %		
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.48 mg/kg	1.142	0.548 mg/kg	0.0000548 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14 mg/kg	1.462	20.462 mg/kg	0.00205 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	24.77 mg/kg	0.00248 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	19 mg/kg		19 mg/kg	0.0019 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10	nickel { nickel(II) carbonate }	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]		18 mg/kg	2.022	36.403 mg/kg	0.00364 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.43 mg/kg	2.554	1.098 mg/kg	0.00011 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		69 mg/kg	1.245	85.885 mg/kg	0.00859 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		9.3	pH		9.3	pH	9.3 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		0.18	mg/kg		0.18	mg/kg	0.000018 %		
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		0.27	mg/kg		0.27	mg/kg	0.000027 %		
27		pyrene		204-927-3	129-00-0		0.22	mg/kg		0.22	mg/kg	0.000022 %		
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		16	mg/kg	1.785	28.563	mg/kg	0.00286 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.0246 %		

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

Classification of sample: WS02-17/11/2022-1.0

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

Sample details

Sample name:
WS02-17/11/2022-1.0
Sample Depth:
1.0 m
Moisture content:
16%
(no correction)

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

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH		PH		5.8 pH		5.8 pH	5.8 pH		
								Total:	0%		

Key

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

Classification of sample: WS03-17/11/2022-0.15

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

Sample details

Sample name:
WS03-17/11/2022-0.15
Sample Depth:
0.15 m
Moisture content:
16%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2.6 mg/kg	1.197	3.112 mg/kg	0.000311 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10 mg/kg	1.32	13.203 mg/kg	0.00132 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.81 mg/kg	3.22	2.608 mg/kg	0.000261 %		
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.85 mg/kg	1.142	0.971 mg/kg	0.0000971 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37 mg/kg	1.462	54.078 mg/kg	0.00541 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		40 mg/kg	1.126	45.036 mg/kg	0.0045 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	110 mg/kg		110 mg/kg	0.011 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.09 mg/kg		0.09 mg/kg	0.000009 %		
10	nickel { nickel(II) carbonate }	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]		22 mg/kg	2.022	44.493 mg/kg	0.00445 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.64 mg/kg	2.554	1.634 mg/kg	0.000163 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		100 mg/kg	1.245	124.471 mg/kg	0.0124 %		
13	TPH (C6 to C40) petroleum group			TPH		38 mg/kg		38 mg/kg	0.0038 %		

#		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				8.7	pH		8.7	pH	8.7 pH		
				PH									
20		naphthalene				210	mg/kg		210	mg/kg	0.021 %		
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				0.91	mg/kg		0.91	mg/kg	0.000091 %		
			205-917-1	208-96-8									
22		acenaphthene				28	mg/kg		28	mg/kg	0.0028 %		
			201-469-6	83-32-9									
23		fluorene				22	mg/kg		22	mg/kg	0.0022 %		
			201-695-5	86-73-7									
24		phenanthrene				140	mg/kg		140	mg/kg	0.014 %		
			201-581-5	85-01-8									
25		anthracene				29	mg/kg		29	mg/kg	0.0029 %		
			204-371-1	120-12-7									
26		fluoranthene				190	mg/kg		190	mg/kg	0.019 %		
			205-912-4	206-44-0									
27		pyrene				160	mg/kg		160	mg/kg	0.016 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				95	mg/kg		95	mg/kg	0.0095 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				91	mg/kg		91	mg/kg	0.0091 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				100	mg/kg		100	mg/kg	0.01 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				44	mg/kg		44	mg/kg	0.0044 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				98	mg/kg		98	mg/kg	0.0098 %		
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				62	mg/kg		62	mg/kg	0.0062 %		
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				13	mg/kg		13	mg/kg	0.0013 %		
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				53	mg/kg		53	mg/kg	0.0053 %		
			205-883-8	191-24-2									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				25	mg/kg	1.785	44.63	mg/kg	0.00446 %		
		023-001-00-8	215-239-8	1314-62-1									
37		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
				P1186									
										Total:	0.182 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.0038%)

Classification of sample: WS03-17/11/2022-1.8

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

Sample details

Sample name:
WS03-17/11/2022-1.8
Sample Depth:
1.8 m
Moisture content:
14%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14% 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		7.7 pH		7.7 pH	7.7 pH		
								Total:	0%		

Key

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

Classification of sample: WS04-17/11/2022-0.2

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

Sample details

Sample name:
WS04-17/11/2022-0.2
Sample Depth:
0.2 m
Moisture content:
17%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.7 mg/kg	1.32	8.846 mg/kg	0.000885 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.26 mg/kg	1.142	0.297 mg/kg	0.0000297 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		18 mg/kg	1.462	26.308 mg/kg	0.00263 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	28.147 mg/kg	0.00281 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	57 mg/kg		57 mg/kg	0.0057 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.07 mg/kg		0.07 mg/kg	0.000007 %		
10	nickel { nickel(II) carbonate }	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]		14 mg/kg	2.022	28.314 mg/kg	0.00283 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.49 mg/kg	2.554	1.251 mg/kg	0.000125 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		61 mg/kg	1.245	75.928 mg/kg	0.00759 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		8.4	pH		8.4	pH	8.4 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.89	mg/kg		0.89	mg/kg	0.000089 %		
21		acenaphthylene		205-917-1	208-96-8		0.4	mg/kg		0.4	mg/kg	0.00004 %		
22		acenaphthene		201-469-6	83-32-9		2.4	mg/kg		2.4	mg/kg	0.00024 %		
23		fluorene		201-695-5	86-73-7		3.2	mg/kg		3.2	mg/kg	0.00032 %		
24		phenanthrene		201-581-5	85-01-8		38	mg/kg		38	mg/kg	0.0038 %		
25		anthracene		204-371-1	120-12-7		7.2	mg/kg		7.2	mg/kg	0.00072 %		
26		fluoranthene		205-912-4	206-44-0		45	mg/kg		45	mg/kg	0.0045 %		
27		pyrene		204-927-3	129-00-0		36	mg/kg		36	mg/kg	0.0036 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		19	mg/kg		19	mg/kg	0.0019 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		18	mg/kg		18	mg/kg	0.0018 %		
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		22	mg/kg		22	mg/kg	0.0022 %		
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		8.5	mg/kg		8.5	mg/kg	0.00085 %		
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		20	mg/kg		20	mg/kg	0.002 %		
33		indeno[123-cd]pyrene		205-893-2	193-39-5		12	mg/kg		12	mg/kg	0.0012 %		
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		2.4	mg/kg		2.4	mg/kg	0.00024 %		
35		benzo[ghi]perylene		205-883-8	191-24-2		10	mg/kg		10	mg/kg	0.001 %		
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		17	mg/kg	1.785	30.348	mg/kg	0.00303 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.0517 %		

Key

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

Classification of sample: WS05-17/11/2022-0.7

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

Sample details

Sample name:
WS05-17/11/2022-0.7
Sample Depth:
0.7 m
Moisture content:
9.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.9 mg/kg	1.32	2.509 mg/kg	0.000251 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.96 mg/kg	1.142	1.097 mg/kg	0.00011 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	21.923 mg/kg	0.00219 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	13.511 mg/kg	0.00135 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	63 mg/kg		63 mg/kg	0.0063 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10	nickel { nickel(II) carbonate }	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]		16 mg/kg	2.022	32.359 mg/kg	0.00324 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.43 mg/kg	2.554	1.098 mg/kg	0.00011 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		110 mg/kg	1.245	136.919 mg/kg	0.0137 %		
13	TPH (C6 to C40) petroleum group			TPH		130 mg/kg		130 mg/kg	0.013 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		5.7	pH		5.7	pH	5.7 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		0.12	mg/kg		0.12	mg/kg	0.000012 %		
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		0.12	mg/kg		0.12	mg/kg	0.000012 %		
27		pyrene		204-927-3	129-00-0		0.13	mg/kg		0.13	mg/kg	0.000013 %		
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		15	mg/kg	1.785	26.778	mg/kg	0.00268 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.0437 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.013%)

Classification of sample: WS07-18/11/2022-0.3

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

Sample details

Sample name:
WS07-18/11/2022-0.3
Sample Depth:
0.3 m
Moisture content:
17%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		33 mg/kg	1.32	43.571 mg/kg	0.00436 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.13 mg/kg	1.142	0.149 mg/kg	0.0000149 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19 mg/kg	1.462	27.77 mg/kg	0.00278 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	47.287 mg/kg	0.00473 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	8.1 mg/kg		8.1 mg/kg	0.00081 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	nickel { nickel(II) carbonate }	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]		25 mg/kg	2.022	50.56 mg/kg	0.00506 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.67 mg/kg	2.554	1.711 mg/kg	0.000171 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		17 mg/kg	1.245	21.16 mg/kg	0.00212 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
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				9.3	pH		9.3	pH	9.3 pH		
				PH									
20		naphthalene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		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				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			201-695-5	86-73-7									
24		phenanthrene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			201-581-5	85-01-8									
25		anthracene				0.28	mg/kg		0.28	mg/kg	0.000028 %		
			204-371-1	120-12-7									
26		fluoranthene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
			205-912-4	206-44-0									
27		pyrene				0.97	mg/kg		0.97	mg/kg	0.000097 %		
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.53	mg/kg		0.53	mg/kg	0.000053 %		
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.47	mg/kg		0.47	mg/kg	0.000047 %		
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.49	mg/kg		0.49	mg/kg	0.000049 %		
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				0.29	mg/kg		0.29	mg/kg	0.000029 %		
			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				0.25	mg/kg		0.25	mg/kg	0.000025 %		
			205-883-8	191-24-2									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				33	mg/kg	1.785	58.911	mg/kg	0.00589 %		
		023-001-00-8	215-239-8	1314-62-1									
37		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
										Total:	0.0282 %		

Key

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

Classification of sample: WS07-18/11/2022-0.7

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

Sample details

Sample name:
WS07-18/11/2022-0.7
Sample Depth:
0.7 m
Moisture content:
13%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.5 mg/kg	1.32	4.621 mg/kg	0.000462 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.74 mg/kg	1.142	0.845 mg/kg	0.0000845 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22 mg/kg	1.462	32.154 mg/kg	0.00322 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19 mg/kg	1.126	21.392 mg/kg	0.00214 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	28 mg/kg		28 mg/kg	0.0028 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	nickel { nickel(II) carbonate }	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]		36 mg/kg	2.022	72.807 mg/kg	0.00728 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.69 mg/kg	2.554	1.762 mg/kg	0.000176 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		120 mg/kg	1.245	149.366 mg/kg	0.0149 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		7.1	pH		7.1	pH	7.1 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		0.22	mg/kg		0.22	mg/kg	0.000022 %		
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		0.21	mg/kg		0.21	mg/kg	0.000021 %		
27		pyrene		204-927-3	129-00-0		0.2	mg/kg		0.2	mg/kg	0.00002 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.19	mg/kg		0.19	mg/kg	0.000019 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.22	mg/kg		0.22	mg/kg	0.000022 %		
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		0.16	mg/kg		0.16	mg/kg	0.000016 %		
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		15	mg/kg	1.785	26.778	mg/kg	0.00268 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.0356 %		

Key

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

Classification of sample: WS07-18/11/2022-2.5

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

Sample details

Sample name:
WS07-18/11/2022-2.5
Sample Depth:
2.5 m
Moisture content:
15%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 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	●	pH				6.6 pH		6.6 pH	6.6 pH		
				PH							
								Total:	0%		

Key

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

Classification of sample: WS08-18/11/2022-0.6

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

Sample details

Sample name:
WS08-18/11/2022-0.6
Sample Depth:
0.6 m
Moisture content:
12%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.9 mg/kg	1.32	7.79 mg/kg	0.000779 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2.1 mg/kg	3.22	6.762 mg/kg	0.000676 %		
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.23 mg/kg	1.142	0.263 mg/kg	0.0000263 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14 mg/kg	1.462	20.462 mg/kg	0.00205 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13 mg/kg	1.126	14.637 mg/kg	0.00146 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	22 mg/kg		22 mg/kg	0.0022 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10	nickel { nickel(II) carbonate }	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]		12 mg/kg	2.022	24.269 mg/kg	0.00243 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.5 mg/kg	2.554	1.277 mg/kg	0.000128 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		390 mg/kg	1.245	485.438 mg/kg	0.0485 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		9.4	pH		9.4	pH	9.4 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.44	mg/kg		0.44	mg/kg	0.000044 %		
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		0.13	mg/kg		0.13	mg/kg	0.000013 %		
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		0.9	mg/kg		0.9	mg/kg	0.00009 %		
25		anthracene		204-371-1	120-12-7		0.21	mg/kg		0.21	mg/kg	0.000021 %		
26		fluoranthene		205-912-4	206-44-0		1.5	mg/kg		1.5	mg/kg	0.00015 %		
27		pyrene		204-927-3	129-00-0		1.9	mg/kg		1.9	mg/kg	0.00019 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.3	mg/kg		1.3	mg/kg	0.00013 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		1.5	mg/kg		1.5	mg/kg	0.00015 %		
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		2	mg/kg		2	mg/kg	0.0002 %		
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.63	mg/kg		0.63	mg/kg	0.000063 %		
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.3	mg/kg		1.3	mg/kg	0.00013 %		
33		indeno[123-cd]pyrene		205-893-2	193-39-5		1.1	mg/kg		1.1	mg/kg	0.00011 %		
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.33	mg/kg		0.33	mg/kg	0.000033 %		
35		benzo[ghi]perylene		205-883-8	191-24-2		0.99	mg/kg		0.99	mg/kg	0.000099 %		
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		16	mg/kg	1.785	28.563	mg/kg	0.00286 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.064 %		

Key

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

Classification of sample: WS08-18/11/2022-1.0

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

Sample details

Sample name:
WS08-18/11/2022-1.0
Sample Depth:
1.0 m
Moisture content:
14%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14% 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				9.7 pH		9.7 pH	9.7 pH		
				PH							
								Total:	0%		

Key

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

Classification of sample: WS08-18/11/2022-3.0

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

Sample details

Sample name:
WS08-18/11/2022-3.0
Sample Depth:
3.0 m
Moisture content:
19%
(no correction)

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

Hazard properties

None identified

Determinands

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

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

Key

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

Classification of sample: WS09-18/11/2022-0.1

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

Sample details

Sample name:
WS09-18/11/2022-0.1
Sample Depth:
0.1 m
Moisture content:
13%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10 mg/kg	1.32	13.203 mg/kg	0.00132 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.35 mg/kg	1.142	0.4 mg/kg	0.00004 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	28.147 mg/kg	0.00281 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	49 mg/kg		49 mg/kg	0.0049 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.05 mg/kg		0.05 mg/kg	0.000005 %		
10	nickel { nickel(II) carbonate }	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]		15 mg/kg	2.022	30.336 mg/kg	0.00303 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.51 mg/kg	2.554	1.302 mg/kg	0.00013 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		68 mg/kg	1.245	84.641 mg/kg	0.00846 %		
13	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		8.2	pH		8.2	pH	8.2 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.41	mg/kg		0.41	mg/kg	0.000041 %		
21		acenaphthylene		205-917-1	208-96-8		0.2	mg/kg		0.2	mg/kg	0.00002 %		
22		acenaphthene		201-469-6	83-32-9		1.2	mg/kg		1.2	mg/kg	0.00012 %		
23		fluorene		201-695-5	86-73-7		1.2	mg/kg		1.2	mg/kg	0.00012 %		
24		phenanthrene		201-581-5	85-01-8		12	mg/kg		12	mg/kg	0.0012 %		
25		anthracene		204-371-1	120-12-7		3.1	mg/kg		3.1	mg/kg	0.00031 %		
26		fluoranthene		205-912-4	206-44-0		15	mg/kg		15	mg/kg	0.0015 %		
27		pyrene		204-927-3	129-00-0		13	mg/kg		13	mg/kg	0.0013 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		7.4	mg/kg		7.4	mg/kg	0.00074 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		7.5	mg/kg		7.5	mg/kg	0.00075 %		
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		9.5	mg/kg		9.5	mg/kg	0.00095 %		
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		3.6	mg/kg		3.6	mg/kg	0.00036 %		
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		8.7	mg/kg		8.7	mg/kg	0.00087 %		
33		indeno[123-cd]pyrene		205-893-2	193-39-5		5.3	mg/kg		5.3	mg/kg	0.00053 %		
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		1	mg/kg		1	mg/kg	0.0001 %		
35		benzo[ghi]perylene		205-883-8	191-24-2		4.7	mg/kg		4.7	mg/kg	0.00047 %		
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:	0.0382 %		

Key

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

Classification of sample: WS09-18/11/2022-0.5

Unknown. Chemistry data not provided.
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:	
WS09-18/11/2022-0.5	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
0.5 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% 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							
								Total:	0%		

Key

	User supplied data

Classification of sample: WS09-18/11/2022-1.0

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

Sample details

Sample name:
WS09-18/11/2022-1.0
Sample Depth:
1.0 m
Moisture content:
16%
(no correction)

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

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				7.8 pH		7.8 pH	7.8 pH		
				PH							
								Total:	0%		

Key

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

Classification of sample: WS10-18/11/2022-0.15

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

Sample details

Sample name:
WS10-18/11/2022-0.15
Sample Depth:
0.15 m
Moisture content:
23%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 23% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		9.3	mg/kg	1.197	11.133	mg/kg	0.00111 %		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		26	mg/kg	1.32	34.328	mg/kg	0.00343 %		
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.59	mg/kg	3.22	1.9	mg/kg	0.00019 %		
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.84	mg/kg	1.142	0.96	mg/kg	0.000096 %		
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29	mg/kg	1.462	42.385	mg/kg	0.00424 %		
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		150	mg/kg	1.126	168.883	mg/kg	0.0169 %		
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	380	mg/kg		380	mg/kg	0.038 %		
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.27	mg/kg		0.27	mg/kg	0.000027 %		
10	nickel { nickel(II) carbonate }	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]		59	mg/kg	2.022	119.322	mg/kg	0.0119 %		
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2	mg/kg	2.554	5.108	mg/kg	0.000511 %		
12	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		670	mg/kg	1.245	833.958	mg/kg	0.0834 %		
13	TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
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		6.9	pH		6.9	pH	6.9 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.28	mg/kg		0.28	mg/kg	0.000028 %		
21		acenaphthylene		205-917-1	208-96-8		0.17	mg/kg		0.17	mg/kg	0.000017 %		
22		acenaphthene		201-469-6	83-32-9		0.52	mg/kg		0.52	mg/kg	0.000052 %		
23		fluorene		201-695-5	86-73-7		0.46	mg/kg		0.46	mg/kg	0.000046 %		
24		phenanthrene		201-581-5	85-01-8		4.1	mg/kg		4.1	mg/kg	0.00041 %		
25		anthracene		204-371-1	120-12-7		1.2	mg/kg		1.2	mg/kg	0.00012 %		
26		fluoranthene		205-912-4	206-44-0		7.9	mg/kg		7.9	mg/kg	0.00079 %		
27		pyrene		204-927-3	129-00-0		6.9	mg/kg		6.9	mg/kg	0.00069 %		
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		3.9	mg/kg		3.9	mg/kg	0.00039 %		
29		chrysene	601-048-00-0	205-923-4	218-01-9		4.2	mg/kg		4.2	mg/kg	0.00042 %		
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		5.2	mg/kg		5.2	mg/kg	0.00052 %		
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		2	mg/kg		2	mg/kg	0.0002 %		
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		4.5	mg/kg		4.5	mg/kg	0.00045 %		
33		indeno[123-cd]pyrene		205-893-2	193-39-5		3	mg/kg		3	mg/kg	0.0003 %		
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.5	mg/kg		0.5	mg/kg	0.00005 %		
35		benzo[ghi]perylene		205-883-8	191-24-2		2.7	mg/kg		2.7	mg/kg	0.00027 %		
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		63	mg/kg	1.785	112.467	mg/kg	0.0112 %		
37		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.177 %		

Key

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

Classification of sample: TP01

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

Sample details

Sample name:
TP01
Sample Depth:
0.10 m
Moisture content:
10%
(no correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.9 mg/kg	3.22	2.898 mg/kg	0.00029 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33 mg/kg	1.462	48.231 mg/kg	0.00482 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36 mg/kg	1.126	40.532 mg/kg	0.00405 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	53 mg/kg		53 mg/kg	0.0053 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
8	nickel { nickel(II) carbonate }	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]		19 mg/kg	2.022	38.426 mg/kg	0.00384 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		87 mg/kg	1.245	108.29 mg/kg	0.0108 %		
11	TPH (C6 to C40) petroleum group			TPH		623 mg/kg		623 mg/kg	0.0623 %		
12	benzene	601-020-00-8	200-753-7	71-43-2		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		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]		<5	mg/kg		<5	mg/kg	<0.0005 %		<**LOD**
16		naphthalene 601-052-00-2	202-049-5	91-20-3		1.9	mg/kg		1.9	mg/kg	0.00019 %		
17	●	acenaphthylene	205-917-1	208-96-8		0.35	mg/kg		0.35	mg/kg	0.000035 %		
18	●	acenaphthene	201-469-6	83-32-9		4.5	mg/kg		4.5	mg/kg	0.00045 %		
19	●	fluorene	201-695-5	86-73-7		3.5	mg/kg		3.5	mg/kg	0.00035 %		
20	●	phenanthrene	201-581-5	85-01-8		24	mg/kg		24	mg/kg	0.0024 %		
21	●	anthracene	204-371-1	120-12-7		6.4	mg/kg		6.4	mg/kg	0.00064 %		
22	●	fluoranthene	205-912-4	206-44-0		32	mg/kg		32	mg/kg	0.0032 %		
23	●	pyrene	204-927-3	129-00-0		28	mg/kg		28	mg/kg	0.0028 %		
24		benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		16	mg/kg		16	mg/kg	0.0016 %		
25		chrysene 601-048-00-0	205-923-4	218-01-9		10	mg/kg		10	mg/kg	0.001 %		
26		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		17	mg/kg		17	mg/kg	0.0017 %		
27		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		4.4	mg/kg		4.4	mg/kg	0.00044 %		
28		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		13	mg/kg		13	mg/kg	0.0013 %		
29	●	indeno[123-cd]pyrene	205-893-2	193-39-5		5.5	mg/kg		5.5	mg/kg	0.00055 %		
30		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		1.3	mg/kg		1.3	mg/kg	0.00013 %		
31	●	monohydric phenols		P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
										Total:	0.112 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.0623%)

Classification of sample: TP01[2]

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

Sample details

Sample name:
TP01[2]
Sample Depth:
0.50 m
Moisture content:
8.7%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.7% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.2	mg/kg	1.32	9.506	mg/kg	0.000951 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.6	mg/kg	3.22	5.152	mg/kg	0.000515 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19	mg/kg	1.462	27.77	mg/kg	0.00278 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	22.518	mg/kg	0.00225 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	24	mg/kg		24	mg/kg	0.0024 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
8	nickel { nickel(II) carbonate }	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]		15	mg/kg	2.022	30.336	mg/kg	0.00303 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		82	mg/kg	1.245	102.067	mg/kg	0.0102 %		
11	TPH (C6 to C40) petroleum group			TPH		120	mg/kg		120	mg/kg	0.012 %		
12	benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		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]		<5	mg/kg		<5	mg/kg	<0.0005 %		<**LOD**
16		naphthalene 601-052-00-2	202-049-5	91-20-3		0.28	mg/kg		0.28	mg/kg	0.000028 %		
17	●	acenaphthylene	205-917-1	208-96-8		0.1	mg/kg		0.1	mg/kg	0.00001 %		
18	●	acenaphthene	201-469-6	83-32-9		0.63	mg/kg		0.63	mg/kg	0.000063 %		
19	●	fluorene	201-695-5	86-73-7		0.29	mg/kg		0.29	mg/kg	0.000029 %		
20	●	phenanthrene	201-581-5	85-01-8		3.2	mg/kg		3.2	mg/kg	0.00032 %		
21	●	anthracene	204-371-1	120-12-7		0.9	mg/kg		0.9	mg/kg	0.00009 %		
22	●	fluoranthene	205-912-4	206-44-0		9.4	mg/kg		9.4	mg/kg	0.00094 %		
23	●	pyrene	204-927-3	129-00-0		8.8	mg/kg		8.8	mg/kg	0.00088 %		
24		benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		4.8	mg/kg		4.8	mg/kg	0.00048 %		
25		chrysene 601-048-00-0	205-923-4	218-01-9		3.3	mg/kg		3.3	mg/kg	0.00033 %		
26		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		5.3	mg/kg		5.3	mg/kg	0.00053 %		
27		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		1.3	mg/kg		1.3	mg/kg	0.00013 %		
28		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		4	mg/kg		4	mg/kg	0.0004 %		
29	●	indeno[123-cd]pyrene	205-893-2	193-39-5		1.8	mg/kg		1.8	mg/kg	0.00018 %		
30		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.44	mg/kg		0.44	mg/kg	0.000044 %		
31	●	monohydric phenols		P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
										Total:	0.0409 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.012%)

Classification of sample: TP02

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

Sample details

Sample name:
TP02
Sample Depth:
0.20 m
Moisture content:
9.4%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.4% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.932 mg/kg	0.000193 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26 mg/kg	1.462	38 mg/kg	0.0038 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	38.28 mg/kg	0.00383 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	41 mg/kg		41 mg/kg	0.0041 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
8	nickel { nickel(II) carbonate }	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]		19 mg/kg	2.022	38.426 mg/kg	0.00384 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		84 mg/kg	1.245	104.556 mg/kg	0.0105 %		
11	TPH (C6 to C40) petroleum group			TPH		577 mg/kg		577 mg/kg	0.0577 %		
12	benzene	601-020-00-8	200-753-7	71-43-2		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		xylene				<5	mg/kg		<5	mg/kg	<0.0005 %		<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]									
16		naphthalene				0.74	mg/kg		0.74	mg/kg	0.000074 %		
		601-052-00-2	202-049-5	91-20-3									
17		acenaphthylene				0.41	mg/kg		0.41	mg/kg	0.000041 %		
			205-917-1	208-96-8									
18		acenaphthene				0.75	mg/kg		0.75	mg/kg	0.000075 %		
			201-469-6	83-32-9									
19		fluorene				0.85	mg/kg		0.85	mg/kg	0.000085 %		
			201-695-5	86-73-7									
20		phenanthrene				5.8	mg/kg		5.8	mg/kg	0.00058 %		
			201-581-5	85-01-8									
21		anthracene				1.7	mg/kg		1.7	mg/kg	0.00017 %		
			204-371-1	120-12-7									
22		fluoranthene				9.5	mg/kg		9.5	mg/kg	0.00095 %		
			205-912-4	206-44-0									
23		pyrene				8.6	mg/kg		8.6	mg/kg	0.00086 %		
			204-927-3	129-00-0									
24		benzo[a]anthracene				5.4	mg/kg		5.4	mg/kg	0.00054 %		
		601-033-00-9	200-280-6	56-55-3									
25		chrysene				3.7	mg/kg		3.7	mg/kg	0.00037 %		
		601-048-00-0	205-923-4	218-01-9									
26		benzo[b]fluoranthene				6.2	mg/kg		6.2	mg/kg	0.00062 %		
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		601-036-00-5	205-916-6	207-08-9									
28		benzo[a]pyrene; benzo[def]chrysene				4.9	mg/kg		4.9	mg/kg	0.00049 %		
		601-032-00-3	200-028-5	50-32-8									
29		indeno[123-cd]pyrene				2.2	mg/kg		2.2	mg/kg	0.00022 %		
			205-893-2	193-39-5									
30		dibenz[a,h]anthracene				0.53	mg/kg		0.53	mg/kg	0.000053 %		
		601-041-00-2	200-181-8	53-70-3									
31		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
										Total:	0.0931 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.0577%)

Classification of sample: TP02[2]

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

Sample details

Sample name:
TP02[2]
Sample Depth:
0.60 m
Moisture content:
9.5%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.5% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7 mg/kg	1.32	10.167 mg/kg	0.00102 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		2.1 mg/kg	3.22	6.762 mg/kg	0.000676 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		23 mg/kg	1.462	33.616 mg/kg	0.00336 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	31.525 mg/kg	0.00315 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	30 mg/kg		30 mg/kg	0.003 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
8	nickel { nickel(II) carbonate }	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]		17 mg/kg	2.022	34.381 mg/kg	0.00344 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		75 mg/kg	1.245	93.354 mg/kg	0.00934 %		
11	TPH (C6 to C40) petroleum group			TPH		514 mg/kg		514 mg/kg	0.0514 %		
12	benzene	601-020-00-8	200-753-7	71-43-2		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		xylene				<5	mg/kg		<5	mg/kg	<0.0005 %		<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]									
16		naphthalene				0.63	mg/kg		0.63	mg/kg	0.000063 %		
		601-052-00-2	202-049-5	91-20-3									
17		acenaphthylene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
			205-917-1	208-96-8									
18		acenaphthene				0.72	mg/kg		0.72	mg/kg	0.000072 %		
			201-469-6	83-32-9									
19		fluorene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			201-695-5	86-73-7									
20		phenanthrene				5.5	mg/kg		5.5	mg/kg	0.00055 %		
			201-581-5	85-01-8									
21		anthracene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
			204-371-1	120-12-7									
22		fluoranthene				8.9	mg/kg		8.9	mg/kg	0.00089 %		
			205-912-4	206-44-0									
23		pyrene				8	mg/kg		8	mg/kg	0.0008 %		
			204-927-3	129-00-0									
24		benzo[a]anthracene				5	mg/kg		5	mg/kg	0.0005 %		
		601-033-00-9	200-280-6	56-55-3									
25		chrysene				3.4	mg/kg		3.4	mg/kg	0.00034 %		
		601-048-00-0	205-923-4	218-01-9									
26		benzo[b]fluoranthene				5.7	mg/kg		5.7	mg/kg	0.00057 %		
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
		601-036-00-5	205-916-6	207-08-9									
28		benzo[a]pyrene; benzo[def]chrysene				4.3	mg/kg		4.3	mg/kg	0.00043 %		
		601-032-00-3	200-028-5	50-32-8									
29		indeno[123-cd]pyrene				2	mg/kg		2	mg/kg	0.0002 %		
			205-893-2	193-39-5									
30		dibenz[a,h]anthracene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
		601-041-00-2	200-181-8	53-70-3									
31		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
										Total:	0.0826 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.0514%)

Classification of sample: TP04

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

Sample details

Sample name:
TP04
Sample Depth:
0.20 m
Moisture content:
11%
(no correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.143%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.143%)

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	21.125 mg/kg	0.00211 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.932 mg/kg	0.000193 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32 mg/kg	1.462	46.77 mg/kg	0.00468 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		39 mg/kg	1.126	43.91 mg/kg	0.00439 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	74 mg/kg		74 mg/kg	0.0074 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
8		nickel { nickel(II) carbonate }											
		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]		21	mg/kg	2.022	42.471	mg/kg	0.00425 %		
9		selenium { nickel selenate }											
		028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
10		zinc { zinc oxide }											
		030-013-00-7	215-222-5	1314-13-2		89	mg/kg	1.245	110.78	mg/kg	0.0111 %		
11		TPH (C6 to C40) petroleum group											
				TPH		1425	mg/kg		1425	mg/kg	0.143 %		
12		benzene											
		601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13		toluene											
		601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14		ethylbenzene											
		601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
15		xylene											
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16		naphthalene											
		601-052-00-2	202-049-5	91-20-3		3.3	mg/kg		3.3	mg/kg	0.00033 %		
17		acenaphthylene											
			205-917-1	208-96-8		0.65	mg/kg		0.65	mg/kg	0.000065 %		
18		acenaphthene											
			201-469-6	83-32-9		1.9	mg/kg		1.9	mg/kg	0.00019 %		
19		fluorene											
			201-695-5	86-73-7		2.3	mg/kg		2.3	mg/kg	0.00023 %		
20		phenanthrene											
			201-581-5	85-01-8		15	mg/kg		15	mg/kg	0.0015 %		
21		anthracene											
			204-371-1	120-12-7		4.4	mg/kg		4.4	mg/kg	0.00044 %		
22		fluoranthene											
			205-912-4	206-44-0		20	mg/kg		20	mg/kg	0.002 %		
23		pyrene											
			204-927-3	129-00-0		19	mg/kg		19	mg/kg	0.0019 %		
24		benzo[a]anthracene											
		601-033-00-9	200-280-6	56-55-3		11	mg/kg		11	mg/kg	0.0011 %		
25		chrysene											
		601-048-00-0	205-923-4	218-01-9		10	mg/kg		10	mg/kg	0.001 %		
26		benzo[b]fluoranthene											
		601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
27		benzo[k]fluoranthene											
		601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
28		benzo[a]pyrene; benzo[def]chrysene											
		601-032-00-3	200-028-5	50-32-8		12	mg/kg		12	mg/kg	0.0012 %		
29		indeno[123-cd]pyrene											
			205-893-2	193-39-5		4.9	mg/kg		4.9	mg/kg	0.00049 %		
30		dibenz[a,h]anthracene											
		601-041-00-2	200-181-8	53-70-3		1.4	mg/kg		1.4	mg/kg	0.00014 %		
31		benzo[ghi]perylene											
			205-883-8	191-24-2		6	mg/kg		6	mg/kg	0.0006 %		
32		phenol											
		604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
33		monohydric phenols											
				P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
										Total:	0.19 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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.: 0.143%)

Classification of sample: TP05

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

Sample details

Sample name:
TP05
Sample Depth:
0.10 m
Moisture content:
9.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.8% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	14.524 mg/kg	0.00145 %		
2	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.6 mg/kg	3.22	1.932 mg/kg	0.000193 %		
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30 mg/kg	1.462	43.847 mg/kg	0.00438 %		
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	33.777 mg/kg	0.00338 %		
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	59 mg/kg		59 mg/kg	0.0059 %		
7	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
8	nickel { nickel(II) carbonate }	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]		18 mg/kg	2.022	36.403 mg/kg	0.00364 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		89 mg/kg	1.245	110.78 mg/kg	0.0111 %		
11	TPH (C6 to C40) petroleum group			TPH		606 mg/kg		606 mg/kg	0.0606 %		
12	benzene	601-020-00-8	200-753-7	71-43-2		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
13	toluene	601-021-00-3	203-625-9	108-88-3		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		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]		<5	mg/kg		<5	mg/kg	<0.0005 %		<**LOD**
16		naphthalene 601-052-00-2	202-049-5	91-20-3		1.5	mg/kg		1.5	mg/kg	0.00015 %		
17	●	acenaphthylene	205-917-1	208-96-8		0.35	mg/kg		0.35	mg/kg	0.000035 %		
18	●	acenaphthene	201-469-6	83-32-9		1.6	mg/kg		1.6	mg/kg	0.00016 %		
19	●	fluorene	201-695-5	86-73-7		1.2	mg/kg		1.2	mg/kg	0.00012 %		
20	●	phenanthrene	201-581-5	85-01-8		11	mg/kg		11	mg/kg	0.0011 %		
21	●	anthracene	204-371-1	120-12-7		3.5	mg/kg		3.5	mg/kg	0.00035 %		
22	●	fluoranthene	205-912-4	206-44-0		22	mg/kg		22	mg/kg	0.0022 %		
23	●	pyrene	204-927-3	129-00-0		20	mg/kg		20	mg/kg	0.002 %		
24		benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		11	mg/kg		11	mg/kg	0.0011 %		
25		chrysene 601-048-00-0	205-923-4	218-01-9		10	mg/kg		10	mg/kg	0.001 %		
26		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
27		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
28		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		12	mg/kg		12	mg/kg	0.0012 %		
29	●	indeno[123-cd]pyrene	205-893-2	193-39-5		6	mg/kg		6	mg/kg	0.0006 %		
30		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		1.2	mg/kg		1.2	mg/kg	0.00012 %		
31	●	benzo[ghi]perylene	205-883-8	191-24-2		6.4	mg/kg		6.4	mg/kg	0.00064 %		
32		phenol 604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
33	●	monohydric phenols		P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
										Total:	0.104 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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.: 0.0606%)

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 formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.

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, pigment

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. The selection of “lead compounds with the exception of those specified elsewhere in this Annex (worst case)” is considered as applicable in this instance.

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

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 selenate}

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

zinc {zinc oxide}

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. Most likely species of Zinc in soil is as Zinc Oxide or Silicate. Sulfates and Chlorides are very soluble and unlikely to be present. Sulfides are unlikely to be present in this sample. Silicate is not an option. Zinc Oxide is selected as the most likely species.

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: 2023.51.5529.10230 (20 Feb 2023)
HazWasteOnline Database: 2023.51.5529.10230 (20 Feb 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

hsp consulting

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

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