

Etech Contract Services Ltd
Wythenshawe Sports Hub
Wythenshawe

Phase 2 Geo-Environmental Assessment

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Phase 2 Geo-Environmental Assessment

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY	
Site Address	Wythenshawe Park, Wythenshawe Road, Wythenshawe, Manchester.
Site Setting	<p>The site is currently utilised as an existing Park including car parking, athletics track, pump track, cycling area and baseball pitches.</p> <p>The site was undeveloped farmland until the 1950s when it was developed as playing fields. The athletics track was established in the 1970s and the pump track was constructed in 2022.</p> <p>The proposed development brings together several existing and new facilities to form a new multi-sports hub in Wythenshawe Park. The works include the construction of a new single-storey pavilion to the east of the existing athletics track, the provision of new artificial grass pitches and 'MUGAs' to the south of the new building, a skate area east of the existing pump track, and alterations / extension of the car park.</p>
Published Ground Conditions	Information published by the BGS indicates that most of the site is underlain by Superficial deposits comprising Glaciofluvial Sheet Deposits (sand and gravel) with Devensian Till (Diamicton) encroaching in the eastern / north east of the site. The Superficial deposits overlie strata of the Tarporley Siltstone Formation. (TSF).
Site Investigation	<p>The ground investigation scope of works was completed on the 3rd and 4th March 2025 and targeted to the area of the proposed pavilion and new sports pitches / MUGAs. The works comprised the following activities;</p> <ul style="list-style-type: none"> • Eleven dynamic sampling boreholes. • Chemical analysis of soil samples; and • Geotechnical testing of soil samples. <p>In addition, three groundwater level and ground gas monitoring visits were undertaken.</p>
Ground Conditions Encountered	The ground conditions were generally recorded as topsoil or hardstanding / Made Ground (to max depths of 0.70m) over interbedded loose to medium dense sand and firm to stiff, locally soft to firm clay to depths of at least 5.45m bgl.
Geotechnical Appraisal	<p>Given the stiffness of the clays, it is advised that foundation pressures should be kept below 100KPa to avoid excessive settlements of >25mm. A full settlement assessment will be required once detailed design loads become available.</p> <p>It is likely that a ground bearing floor slab will be a viable option following removal of any soft underlying soils and replacement with a compacted granular fill. This conclusion should be reviewed at detailed-design stage.</p> <p>In accordance with the recommendations of BRE Special Digest 1, 'Concrete in Aggressive Ground (2005)', soils at the site would be classified as Design Sulphate Class DS-2 and ACEC Class AC-2 when considering the most appropriate type of concrete to be used at the site in order to resist chemical attack from elevated sulphate present in the soils (assuming mobile groundwater in non-pyritic soils).</p>
Environmental Appraisal	<p>When the results were screened conservatively against LQM S4ULs for a "residential with no uptake" use all of the contaminant concentrations were recorded below the screening criteria.</p> <p>Asbestos has not been identified within any of the soil samples tested.</p> <p>The site is considered a low risk from ground gases. Given the recorded CO₂ concentrations and TOC of Made Ground and natural soils, conservatively a classification of CS2 should be adopted for the site. Further gas monitoring when the wells are not flooded may allow this to be reduced to CS1.</p>

Waste Assessment	The waste assessment indicates that the soils analysed are likely to be classified as non-hazardous for off-site disposal.
This summary should be read in conjunction with BWB's full report (ref. WPK-BWB-EGT-XX-RP-LE-000X_Ph2) and reflects an assessment of the Site based on information received by BWB at the time of production.	

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1. INTRODUCTION

Instruction

- 1.1 BWB Consulting Ltd (BWB) was instructed by Etech Contract Services Ltd (the Client) to carry out a Phase 2 Geo-Environmental Assessment at the subject site.
- 1.2 The proposed development at the site brings together several existing and new facilities to form a new multi-sports hub in Wythenshawe Park. The works include the construction of a new single-storey pavilion to the east of the existing athletics track, the provision of new artificial grass pitches and 'MUGAs' to the south of the new building, a new skate area east of the existing pump track, and alterations / extension of the car park.
- 1.3 The proposed development site layout is provided as **Drawing 1**.

Previous Reports

- 1.4 The following geo-environmental reports have previously been completed for the site:
 - 'Phase 1 Geo-Environmental Assessment', by BWB consulting for Etech Contract Services Ltd reference WPK-BWB-EGT-XX-RP-LE-0001_DS, dated April 2025.

Objectives

- 1.5 The objectives of the investigation and assessment, culminating in this report are to assess:
 - The prevailing ground and groundwater conditions across the site;
 - The potential presence and extent of contamination in shallow soil and groundwater beneath the site;
 - The significance and magnitude of the observed contamination through comparison of analytical data to appropriate published environmental screening criteria;
 - The geotechnical properties of the ground beneath the site to enable geotechnical assessment and foundation selection; and
 - The ground gas regime beneath the site.
- 1.6 The above objectives will allow the preliminary Conceptual Site Model presented in the Phase 1 report to be verified and updated. This has been undertaken in accordance with BS10175:2011(+A2:2017) 'Investigation of Potentially Contaminated Sites, Code of Practice' and EA Guidance on Risk Management of Land Contamination <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.
- 1.7 This report includes the information obtained from a desk study undertaken by BWB. The report, together with the associated Figures and Appendices, represents a Ground Investigation Report (GIR), as defined in BS EN 1997-1:2004 and BS EN 1997-2:2007.

Scope of Works

1.8 The ground investigation scope of works was completed on 3rd and 4th March 2025 and comprised the following:

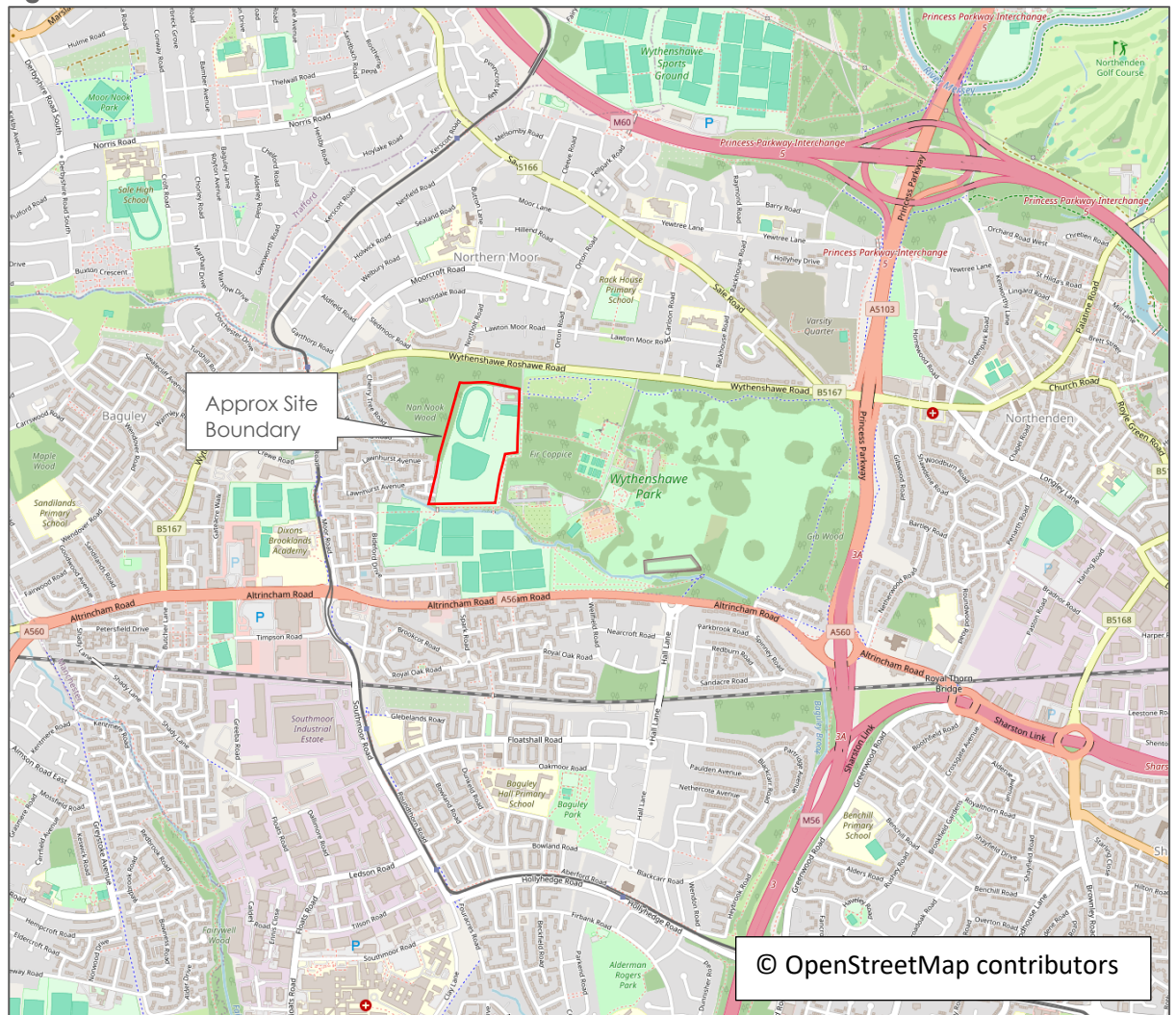
- Non-intrusive survey of excavation locations for underground utilities;
- Eleven window sampler boreholes;
- Three gas and groundwater monitoring visits;
- Chemical analysis of recovered soil samples; and
- Geotechnical testing of soil samples.

2. THE SITE

Site Location

- 1.1 The site is located at Wythenshawe Sports Hub, in Wythenshawe, centred at National Grid Reference 381019, 389868. The approximate location of the site is shown below in **Figure 2.1**.

Figure 2.1: Site Location Plan



Site Description

- 2.1 The site is roughly rectangular in shape and is generally flat lying at an elevation of circa 32m above Ordnance Datum (AOD).
- 2.2 The site comprises an existing public sports field. The site is accessed off Wythenshawe Road, via a tarmacked single lane drive to the north east of the site. Vehicular access into the remainder of the site is available via a track off the south east corner of the car park; access is secured by a locked gate.

-
- 2.3 An existing car park is located in the north east corner of the site. An existing disused building is located within the eastern portion of the car park. The building is a single storey, brick-build structure which is boarded up and in a poor state of repair. There is an inner courtyard which is accessed via a locked gate to the north of the building. A former tank is mounted on the roof on the eastern end of the building. It is understood that as part of the development this building will be demolished and the full area redeveloped for car parking.
- 2.4 The existing athletics track is located in the north west corner of the site. The track is segregated by a palisade fence. Storage containers and a temporary changing room are present to the north east of the track.
- 2.5 To the south of the car park on the eastern side of the site, there is an existing "learn to ride area" and "pump track" along with a picnic area complete with fixed tables and chairs. This area is to remain as part of the redevelopment of the site.
- 2.6 The remainder of the site comprises grassed playing fields. To the south these are utilised as baseball pitches.

3. PUBLISHED GROUND CONDITIONS

Published Geology

- 3.1 British Geological Survey (BGS) mapping for the site indicates that most of the site is underlain by natural Superficial deposits comprising Glaciofluvial Sheet Deposits (predominantly granular, sand and gravel) with Devensian Till (Diamicton) encroaching in the eastern / north east of the site. The Superficial deposits principally overlie strata of the Tarporley Siltstone Formation. (TSF). Over most of the site the TSF is recorded as siltstone with siltstone & sandstone present along the northern edge (around the car park area). No Made Ground is mapped.
- 3.2 One historical borehole log, (ref: SJ89SW37), located approximately 100m north east of the site, indicated ground conditions to comprise topsoil to 0.30m, sand and gravel to 2.29m, clay to 5.49m, stoney clay to 8.23m, sand to 8.53m, stoney clay to 9.68m over red mudstone to (at least) 15.24m bgl.

Hydrogeology

- 3.3 The underlying ground conditions have been classified by the Environment Agency (EA) as follows:
- Glaciofluvial Sheet Deposits: Secondary A Aquifer;
 - Devensian Till: Secondary Undifferentiated Aquifer; and
 - Tarporley Siltstone Formation: Secondary A Aquifer.
- 3.4 The site does not lie within, or within close proximity to, any currently defined EA groundwater Source Protection Zones and there are no potable groundwater abstractions within 2km of the site.

Hydrology

- 3.5 The closest surface water feature to the site is the Baguley Brook which flows west along the southern boundary of the site.
- 3.6 There are also a series of ponds circa 10m to 125m north / north east and 60m south east.
- 3.7 The site does not fall within an EA flood Zone; however, a Flood Zone 2/3 lies immediately south, associated with the Brook.

4. PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

Introduction

- 4.1 The risk posed by any contaminants in soil or groundwater will depend on the nature of the hazard, the probability of exposure, the pathway by which exposure occurs, and the likely effects on the receptors. A contaminant is defined as a substance that has the potential to cause harm, while a risk is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.
- 4.2 The following sections discuss all the identified potential on and off-site sources, pathways and receptors in the context of the proposed development and plausible pollutant linkages which may represent a risk to identified receptors such as human health and/or controlled waters from the data gained from the desk study. At this stage the assessment is qualitative and aimed to determine all pollutant linkages, irrespective of significance or allowing for uncertainty.
- 4.3 Three impact potentials exist for any given site; these are:
- The site impacting upon itself;
 - The site impacting on its surroundings; and
 - The surroundings impacting on the site.
- 4.4 All three impacts need to be considered in a risk assessment.
- 4.5 A Source, Pathway, Receptor analysis has been undertaken for the site based on the information provided in the preceding sections. This is presented as Table 5 and further information about the risk classification scheme is included within **Appendix 10**.
- 4.6 Sources (S); These are potential or known sources of contamination that may relate to a former land use or present site feature or process (e.g. fuel storage tanks).
- 4.7 Pathways (P); A pathway is defined as a mechanism or route by which a contaminant comes into contact with, or otherwise affects a receptor. Pathways by which the identified receptors may be impacted upon in the context of the proposed development.
- 4.8 Receptors (R); Receptors are defined as people, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by contaminant(s).
- 4.9 Under the Construction Design Management (CDM) Regulations 2015, construction and maintenance contractors must undertake their own risk assessments and mitigation to protect their staff, other human receptors and the environment from potential contamination. By law potential risks to human health and the environment from construction activities must appropriately identified and all necessary steps taken to eliminate/manage that risk. Therefore, construction / maintenance workers are excluded as a receptor in the CSM.

Table 4:1: Preliminary Conceptual Site Model

Source	Pathway	Receptor	Con	Prob	Risk
S1: On site: Made Ground – Potential contaminants may include heavy metals, Petroleum hydrocarbons, asbestos and hazardous ground gases (carbon dioxide/methane).	P1: Direct contact, incidental ingestion and inhalation of particulates.	R1: Construction/ services personnel	Md	UI	L
		R2: Future site users (recreational)	Md	UI	L
	P2: Vertical migration of contaminants in the soil leachate.	R3: Underlying Secondary A/ Undifferentiated Aquifers	Md	UI	L
	P3: Lateral migration of contaminated groundwater.	R5: Baguley Brook	Md	UI	L
	P4: Direct contact.	R6: Water utility pipes	Md	UI	L
		R7: Buried structures/ foundations.	Md	UI	L
S2: Off-site – Potential Made Ground associated with development surrounding the site. Potential contaminants may include heavy metals, polyaromatic hydrocarbons, petroleum hydrocarbons, asbestos and hazardous ground gases (carbon dioxide/methane).	P5: Migration and accumulation of ground gases in enclosed spaces leading to asphyxiation (carbon dioxide).	R2: Future site users	Md	UI	L
	P4: Leaching and permeation through soil profile	R1: Groundwater (Secondary Aquifers)	Md	UI	L
	P3: Migration of contaminated groundwater	R4: Surface Water (Baguley Brook)	Md	UI	L
	P5: Migration and accumulation of ground gases in enclosed spaces leading to asphyxiation (carbon dioxide).	R2: Future site users	Md	UI	L
<p>Key: VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low</p> <p>KEY: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor Hi = High, Li = Likely, Lw = Low Likelihood, UI = Unlikely</p>					

5. PHASE II ENVIRONMENTAL AND GEOTECHNICAL GROUND INVESTIGATION

- 5.1 Intrusive ground investigation works were undertaken between 3rd and 4th March 2025 and comprised the following works:
- Clearance of investigation locations by a specialist buried services tracing company;
 - Collection of coordinates and elevations of exploratory hole locations;
 - Advancement of eleven boreholes (DS01 – DS11) by dynamic sampling drilling techniques, to depths of up to 5.45m bgl with completion of SPTs and installations of gas and groundwater monitoring wells;
 - Collection of environmental soil samples for chemical analyses at a UKAS and MCERTS accredited laboratory;
 - Collection of large and small disturbed soil samples for geotechnical testing at a UKAS accredited laboratory; and
 - Three post investigation ground gas and groundwater level monitoring visits.
- 5.2 An exploratory hole location plan is presented as **Drawing 2**. BWB exploratory hole records are presented as **Appendix 1**, the SPT calibration certificate is presented in **Appendix 2**, and the post investigation gas and groundwater monitoring data is presented as **Appendix 3**.
- 5.3 The site investigation works were carried out in general accordance with BS5930:2015+A1:2020 'Code of Practice for Site Investigations' and BS10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites'.

Chemical Sampling Strategy

- 5.4 Samples were taken to achieve a general spread from Made Ground and near surface soils across the site area.
- 5.5 The site was considered as a single averaging area based on a Public Open Space (residential) end use.

Chemical Analytical Strategy

Soil Strategy

- 5.6 Selected soil samples collected from exploratory hole locations were sent to I2 Analytical Testing Services (UKAS and MCERTS accredited) for chemical analysis. The following chemical analytical testing was undertaken:
- Twelve soil samples were tested for a soil suite (BWB Standard Suite) comprising arsenic, barium, beryllium, water soluble boron, cadmium, chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, water soluble sulphate (2:1 extract), total phenols, total cyanide, free cyanide, complex cyanide, fraction of organic carbon, pH, Polycyclic Aromatic Hydrocarbons (PAHs) (United

States Environment Protection Agency priority 16 compounds) and Total Petroleum Hydrocarbons (TPH) C6-C40;

- Four soil samples were tested for TPH speciated to the UK Criteria Working Group (TPHCWG) aliphatic and aromatic fractions.
- Four soil samples underwent asbestos screening;
- Three soil samples were tested for a suite of common leachable contaminants, namely arsenic, barium, beryllium, water soluble boron, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, water soluble sulphate (2:1 extract), sulphate, total cyanide and pH;
- Two samples were tested for BRE Suite comprising aqueous sulphate and pH; and
- Two samples were tested for Waste Acceptance Criteria (WAC) testing.

5.7 The results of the soil chemical testing are presented as **Appendix 4**.

Geotechnical Strategy

5.8 Three dynamic sampling boreholes (DS01 to DS03) were positioned within the footprint of the proposed pavilion. These boreholes were taken to a max depth of 5.45m bgl. Gas and groundwater monitoring wells were installed within these boreholes.

5.9 In-situ soil strength testing comprising SPTs were undertaken with the dynamic sampler boreholes. SPT 'N' values are included on the exploratory hole logs presented as **Appendix 1**.

5.10 Selected disturbed and bulk samples were collected from the investigation locations and sent to the geotechnical project laboratory (I2 Analytical Testing Services), which is UKAS accredited. The following geotechnical testing was undertaken;

- Ten samples tested for moisture content;
- Five samples tested for Atterberg (liquid and plastic) limits;
- Four samples tested for particle size distribution;
- Four samples tested for BRE Suite comprising aqueous sulphate and pH; and
- Two CBR (2.5kg) tests on recompacted samples.

5.11 The results of the geotechnical testing are included as **Appendix 5**.

Limitations and Uncertainty

5.12 Only a tiny volume of the ground relative to the site area has been investigated and sampled. Although the guidelines set out in the report has been completed in accordance with BS10175:2011(+A2:2017) 'Investigation of Potentially Contaminated Sites, Code of Practice' and EA Guidance on Risk Management of Land Contamination and Eurocode 7. There is the possibility that the ground model, assumptions and conclusions made could differ from those made within this report.

6. GROUND CONDITIONS ENCOUNTERED

Geological Summary

- 6.1 The ground conditions generally recorded confirmed the published geology discussed in the Phase 1 report.
- 6.2 The recorded ground conditions are summarised in **Table 6:1** below. Uncorrected SPT results collected from the borehole locations are presented on the exploratory hole records presented in **Appendix 1**.

Table 6:1 : Summary of Ground Conditions

Stratum	Top Depth (m)		Base Depth (m)		Thickness (m)		SPT N Value	
	Min	Max	Min	Max	Min	Max	Min	Max
Topsoil	GL	GL	0.30	0.42	0.30	0.42	-	-
Made Ground	GL	0.35	0.55	0.70	0.20	0.70	-	-
Interbedded Sand and Clay (Glaciofluvial Deposits)	0.42	0.70	0.50	>5.45		>5.03	4	19
Clay (Glacial Till Deposits)	0.30	0.80	>2.00	-	>1.20	>1.70	7	19

Geological Descriptions

Topsoil

- 6.3 Topsoil was encountered in all locations except DS03, DS04 and DS05, with thicknesses of between 0.30m and 0.42m. The composition also displayed consistency, typically comprising dark brown sandy slightly gravelly clay with rootlets.
- 6.4 The depth of Topsoil over the site may vary from that encountered at the locations investigated within the scope of this investigation which may result in inaccurate estimations of topsoil quantities on the site.

Made Ground

- 6.5 Made Ground was encountered in four of the exploratory holes (DS03, DS04, DS05 and DS09). With the exception of DS09 the Made Ground was located beneath areas covered by tarmac hardstanding with thickness ranging between 0.50m and 0.70m. In DS09 the Made Ground was present beneath the Topsoil at the site with a thickness of 0.20m
- 6.6 In DS03, the 0.05m thick layer of tarmac was underlain by an upper layer of Made Ground to 0.40m bgl comprising sandy gravel. The gravel consisted of fine to coarse subangular to subrounded sandstone, tarmac and concrete with some cobbles of concrete present. This layer was underlain by Made Ground comprising gravelly sand

to 0.60m bgl. The gravel consisted of fine to coarse subangular sandstone, concrete and brick with some cobbles or sandstone and brick.

6.7 In DS04, the 0.1m thick layer of tarmac was underlain by yellowish brown becoming dark brown sandy gravel. The gravel consisted of fine to coarse subangular to subrounded sandstone.

6.8 In DS05, the 0.1m thick layer of tarmac was underlain by an upper layer of Made Ground comprising sandy Gravel to 0.30m bgl. The gravel consisted of fine to coarse subangular sandstone and tarmac. This was underlain to 0.60m bgl by a layer of Made Ground comprising slightly gravelly clay. The gravel consisted of fine to coarse subangular sandstone, concrete and brick.

Glaciofluvial Deposits

6.9 Over the majority of the site, the topsoil and Made Ground was underlain by soils inferred to represent Glaciofluvial Deposits. This stratum was absent from DS09 and DS10 in the east of the site. In DS07 and DS08 this stratum was underlain at depth of between 0.80m and 1.0m by Glacial Till.

6.10 The Glaciofluvial Deposits typically comprised an upper granular layer to between 0.75m and 1.6m bgl over cohesive soils. However interbedded granular and cohesive layers were locally recorded in DS01 and DS05.

6.11 Granular soils were typically loose to medium dense silty fine to medium sand which was brown to brownish grey in colour. The granular layers were typically water bearing.

6.12 Cohesive soils were typically soft to firm, locally becoming firm or stiff and typically composed of locally sandy clay, which was brown to brownish grey in colour.

6.13 Corrected SPT N_{60} values within the Glaciofluvial Deposits were recorded in the range 5 and 24 blows. The peak shear strength values obtained from in-situ hand shear vane (HSV) tests were between 45kPa and 130kPa based on the average of three results. Graphs presenting the SPT and HSV results are presented as **Figure 6:1** and **Figure 6:2** respectively.

Figure 6:1: Corrected SPT 'N' Value (N₆₀) Versus Depth

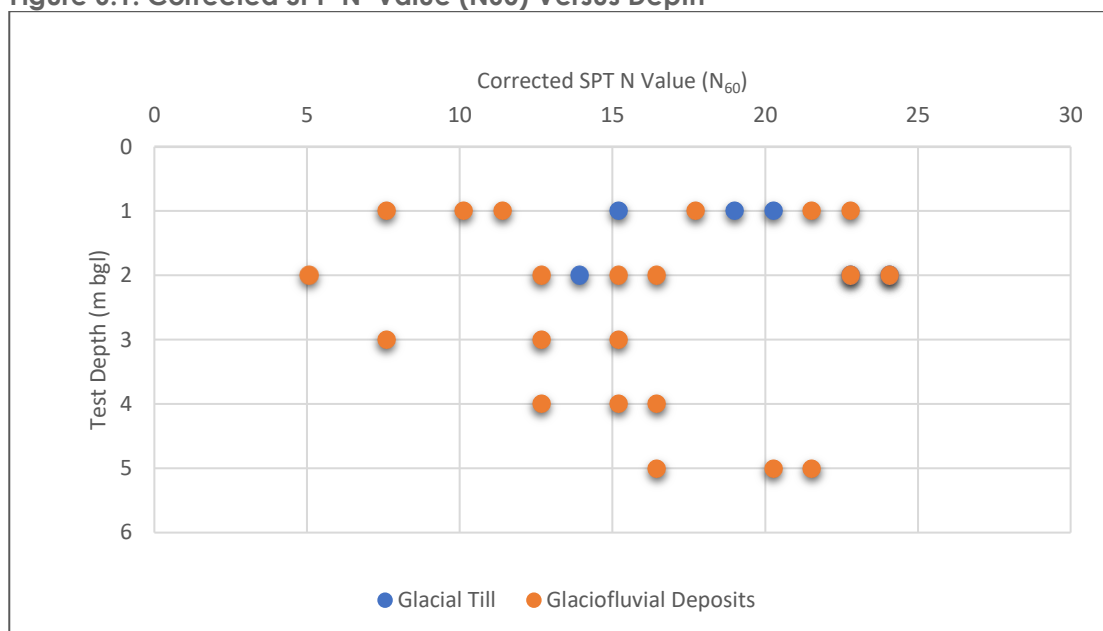
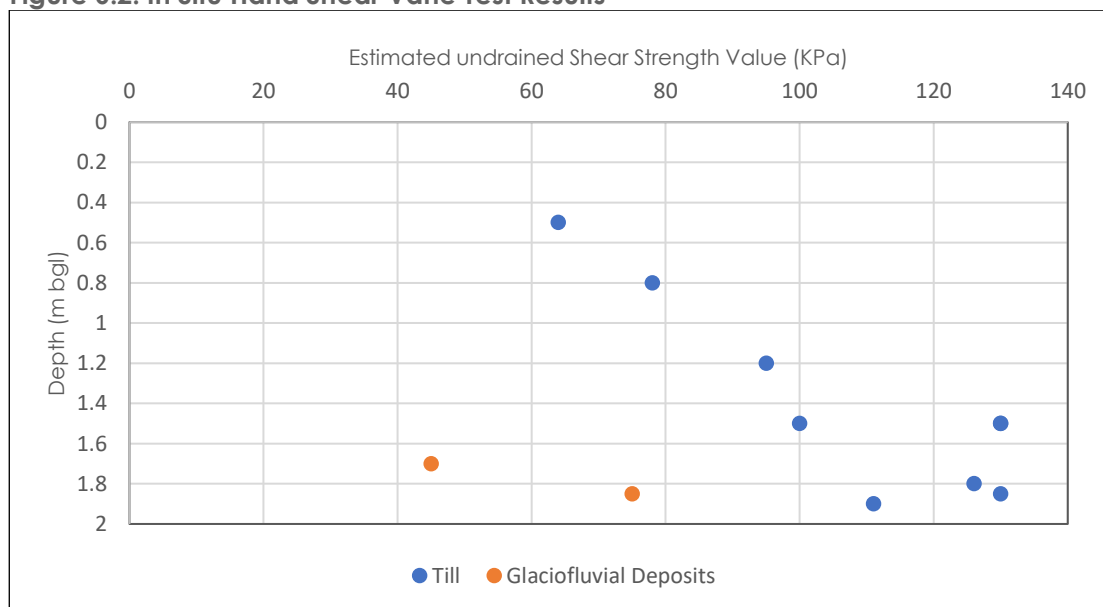


Figure 6:2: In Situ Hand Shear Vane Test Results



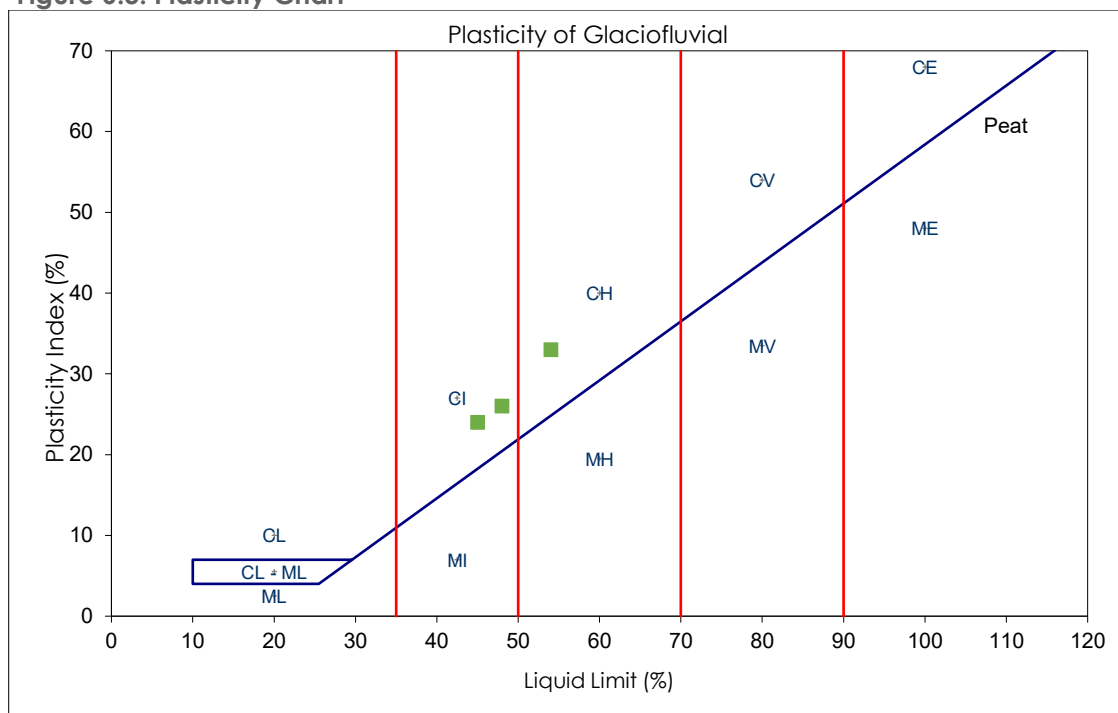
6.14 Atterberg Limit testing was carried out on three specimens taken from samples of the Glaciofluvial Deposits. The results are summarised in **Table 6:2** below. The testing has indicated Pls to be in the range 24% (intermediate plasticity) and 33% (high plasticity). A Plasticity Chart is presented below as **Figure 6:3**.

Table 6:2 : Summary of Atterberg Results

Parameter	Min.	Max.	Mean	Median	Number
Water content (%)	22.1	25.4	23.86	24.3	5
Passing 425µm (%)	100	100	100	100	3
Liquid Limit (%)	45	54	49	48	3

Parameter	Min.	Max.	Mean	Median	Number
Plastic Limit (%)	21	22	21.33	21	3
Plasticity Index (%)	24	33	27.67	26	3
Liquidity Index	0.04	0.12	0.08	0.08	3
Consistency Index	0.88	0.96	0.92	0.92	3

Figure 6:3: Plasticity Chart



- 6.15 Four PSD tests were undertaken on samples from the Glaciofluvial Deposits, a summary of the results is provided in **Table 6:3** below.

Table 6:3 : Summary of Particle Size Distribution Results

Location	Depth (m)	Cobble Content (%)	Gravel Content (%)	Sand Content (%)	Silt / Clay Content (%)	Earthworks Classification
DS01	0.45	0	1	88	7/4	1 A/B
DS04	0.70	0	1	18	31/50	2 A/B
DS07	0.60	0	3	82	8/7	1 A/B
DS11	0.50	0	0	92	8	1 A/B

Till Deposits

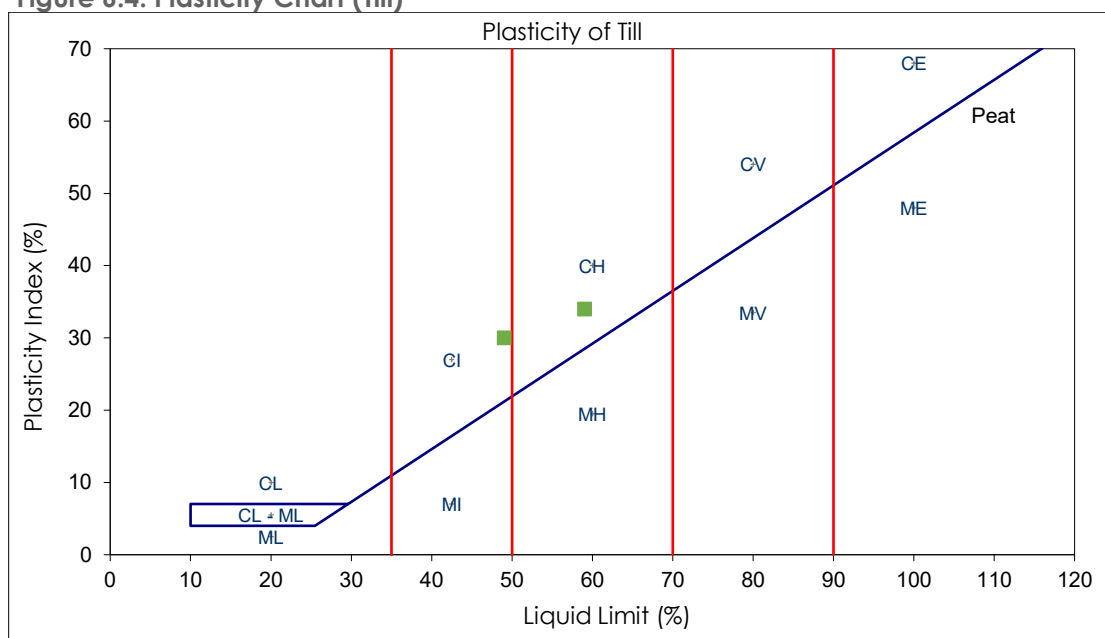
- 6.16 Devensian Till was recorded in three locations (DS07 to DS09) which were on the eastern side of the site.

- 6.17 These were cohesive soils, generally firm or stiff (locally the upper surface was soft to firm) and typically composed of clay or sandy clay, and brown mottled grey in colour.
- 6.18 SPT N_{60} values within the Till were recorded in the range 14 and 24 blows. The peak shear strength values obtained from in-situ hand shear vane (HSV) tests were between 64kPa and >130kPa based on the average of three results. Graphs presenting the SPT and HSV results are presented as **Figure 6:1** and **Figure 6:2** respectively.
- 6.19 Atterberg Limit testing was carried out on two specimens taken from samples of the Till. The results are summarised in **Table 6:4** below. The testing has indicated Pls to be in the range 30% (intermediate plasticity) and 34% (high plasticity). A Plasticity Chart is presented below as **Figure 6:4**.

Table 6:4 : Summary of Atterberg Results

Parameter	Min.	Max.	Mean	Number
Water content (%)	22.1	25.4	23.86	5
Passing 425 μ m (%)	99	100	99.5	2
Liquid Limit (%)	49	59	54	2
Plastic Limit (%)	19	25	22	2
Plasticity Index (%)	30	34	32	2
Liquidity Index	0.13	0.38	0.255	2
Consistency Index	0.62	0.87	0.745	2

Figure 6:4: Plasticity Chart (Till)



Hydrogeology

- 6.20 Perched groundwater entries were recorded during hole formation in the granular Glaciofluvial deposits, as summarised below.

Table 6:5 : Water Strikes

Hole	Strike Depth	Stratum
DS01	2.00	Glaciofluvial Sand
DS02	No Groundwater	Glaciofluvial Clay
DS03	No Groundwater	Glaciofluvial Clay
DS04	No Groundwater	Glaciofluvial Clay
DS05	1.55	Glaciofluvial Sand
DS06	0.80	Glaciofluvial Sand
DS07	1.65	Till
DS08	No Groundwater	Till
DS09	No Groundwater	Till
DS10	0.45	Glaciofluvial Sand
DS11	1.05	Glaciofluvial Sand

- 6.21 During the post investigation groundwater monitoring, groundwater was recorded in the monitoring wells. Resting levels were recorded at depths of between 0.60m and 0.78m bgl during the monitoring visits. This is likely to be perched water within the granular soils. The results are presented within **Appendix 3**.

Contamination Observations

- 6.22 No visual or olfactory contamination was recorded during the intrusive works.
- 6.23 No contamination observations were noted during the subsequent gas and groundwater monitoring period.

7. GEOTECHNICAL APPRAISAL

Introduction

- 7.1 At this stage in the project, no detailed design, foundation or slab loadings have been made available. Given the development type no large or abnormal loadings are expected.
- 7.2 A cross section of the ground conditions below the proposed pavilion structure is given as **Drawing 3**. The ground level adjacent to the proposed pavilion structure is currently at approximately 33mAOD. Boreholes DS01, DS02 and DS03 have been positioned below the proposed pavilion structure.
- 7.3 Topsoil below the proposed structure, estimated to be 0.4m in thickness, will require removal.
- 7.4 Made Ground comprising granular demolition or recycle aggregate of sandstone, tarmac and concrete identified in DS03 below the building footprint is relatively thin (0.6m thickness) and foundations will be below this level.
- 7.5 Medium dense sand and medium strength clay soils will provide the bearing stratum for shallow traditional pad or strip footings. Ground water levels monitored in standpipes are typically 0.7m below ground level so ground water is assumed to be at foundation level.
- 7.6 From the information derived from the ground investigation summarised in Section 6, a series of Characteristic Values have been determined for these various soil units. **Table 7-1**.
- 7.7 Unit weights, both dry and saturated, are derived from suggested values for various soils and particle size distributions in British Standard BS8002:2015 [Figures 1 & 2] and from testing carried out on remoulded CBR specimens.
- 7.8 Effective angle of friction in granular soils are estimated from SPT N values, after Peck, Hansen & Thornburn, and compared with the empirical estimating tables presented in British Standard BS8002:2015 [Table 1].
- 7.9 Undrained shear strength values in cohesive soils are estimated where available from correlation with SPT N values, using the relationship $c_u = f_1 \times N$ and an f_1 value of 4.5 for the natural silty Clay based on characteristic PI values, following Stroud and Butler (1975).
- 7.10 Effective angle of friction of cohesive soils are estimated from plasticity using the relationship presented in British Standard BS8002:2015 [Table 2] and PD6694-2020.
- 7.11 Drained elastic modulus (E') values in granular soils are estimated from correlation with SPT N values, using the relationship $E' = N60$ as presented in CIRIA143.

- 7.12 Drained elastic modulus (E') values in cohesive soils are estimated from correlations with SPT N values, using the relationship $E' = 0.9 \times N_{60}$ as presented in CIRIA143, and checked against the relationship $E' = f_2 \times N$ with f_2 values of 0.45 for the natural Silty Clay following Stroud and Butler (1975).
- 7.13 The coefficient of volume compressibility (m_v) values of cohesive soils is taken as the reciprocal of E' .
- 7.14 Undrained elastic modulus (E_u) values of cohesive soils are estimated from SPT N-values using the correlation of $E_u/N = 1.0$ to 1.2, taken from CIRIA 143.

Table 7:1 : Characteristic Values

Lithological Unit	Bulk unit weight γ_{sat} (kN/m ³)	Undrained cohesion C_u (kN/m ²)	Effective Angle of friction ϕ' (o)	Effective cohesion c' (kN/m ²)	Undrained modulus E_u (MPa)	Drained modulus E' (MPa)	Coefficient of volume compressibility m_v (m ² /MN)
Medium sands	19.0	0	30	-	-	12	-
Silty Clays	20.0	50	0	23	6	10	0.15

Foundation Solutions

Simple Foundations Strip or Pads

- 7.15 Assuming footings are placed at minimum depth of 1.0m the underlying medium strength silty clays will determine the allowable loads and footings sizes. A characteristic undrained strength of 50KPa has been selected. Assuming a 1.0m wide strip footing the ultimate bearing capacity of the clay will be on the order of 250KN/m². Given the stiffness of the clays, it is advised permanent dead loads should be kept below 100KPa to avoid excessive settlements of >25mm.
- 7.16 A full settlement assessment will be required once detailed design loads, and foundation pressures and dimensions become available.

Floor Slabs

- 7.17 A lightly loaded ground-bearing ground floor slab is considered suitable for the proposed development. The long-term settlement of the floor slab will depend on a number of factors including the structural design of the slab, the duration, intensity and distribution of the applied loadings as well as the strength, compressibility and history of the soils beneath the slab. It is likely that a ground bearing floor slab will be a viable option following removal of any soft underlying soils and replacement with a compacted granular Fill. This conclusion should be reviewed at detailed-design stage.

Pavements

- 7.18 BWB recommends that a minimum short-term CBR value of 5% should be ensured or specified at formation level (or for any new Engineered Fill placed) This should be confirmed with in situ testing prior to construction.
- 7.19 Recompact laboratory CBR test have been carried out on samples of the medium grained silty sand with CBR values of <1%. For the site clays, given the plasticity of these soils, a preliminary design value of 2.5% should be anticipated.
- 7.20 Given the foregoing, it is anticipated that some form of capping or improvement of the subgrade will be required prior to construction of new hardstanding. Consideration should be given to some form of chemical modification (lime or cement) in order to increase the subgrade stiffness, in order to meet the required design CBR value.

Drainage

- 7.21 No soakaway drainage testing has been undertaken at the site. However, due to the presence of clay soils below 1.0m a shallow soakaway drainage solution is unlikely to be a viable option.

Excavations

Ease of Excavation

- 7.22 Excavations will be within the capabilities of standard plant.

Stability of Excavation

- 7.23 Running sands may be an issue given the saturated sand beds within the clays.

Legislation on Personnel Entry to Excavations

- 7.24 It is recommended that no excavations should be entered without appropriate support and a full risk assessment should be completed prior to entry. Mitigation measures to protect from accumulating ground gases should be implemented.

Groundwater

- 7.25 From the site investigation information, shallow perched groundwater has been noted in sand beds which could cause some issues in excavations.

Chemical Attack on Buried Concrete

- 7.26 Water soluble (2;1 extract) sulphate concentrations from samples of granular and cohesive soils typically varied from 9mg/l to 224mg/l with soil pH values ranging from 6.8 to 8.6. One sample of the granular Made Ground from DS05 0.4 – 0.5m bgl recorded a soluble sulphate content of 2290mg/l and a low soil pH value of 4.3.

- 7.27 No groundwater samples have been taken.
- 7.28 Water soluble sulphate concentrations in soils measured less than 3,000mg/l.
- 7.29 In accordance with the recommendations of BRE Special Digest 1, 'Concrete in Aggressive Ground' 2005, taking the mean of the highest 20% of the sulphate test results ie 3no samples and assuming mobile groundwater for the Made Ground and natural clay soils, the Design Sulphate (DS) and Aggressive Chemical Environment for Concrete (AC) conditions of the soils at the site are DS-2 and ACEC AC-2.

Earthworks

- 7.30 Only minor regrading of site the levels is likely given the development. However, should this change then an earthworks assessment and specification for works should be undertaken.

8. GROUND GAS ASSESSMENT

Introduction

- 8.1 Ground gas assessment has been undertaken to assess the risks associated with ground gases and volatile vapours to new buildings and their occupants. The results obtained have been assessed in line with relevant guidance (notably CIRIA C665).
- 8.2 Based on the desk study and the ground investigation undertaken, no significant potential sources of ground gas were identified; however, limited Made Ground is present within the developed area on site.
- 8.3 Based on the potential sources identified, CIRIA C665 guidance indicates that for a site with (low) gas generation potential and a (moderate) sensitivity development (the proposed recreational land use), a typical monitoring programme may comprise six visits over a period of three months.
- 8.4 BWB have undertaken three visits over a period of one month and therefore this assessment is considered to be preliminary. Further monitoring may be required to support the proposed development.

Methodology

- 8.5 The assessment of potential ground gas generation is based on the observation of trends and changes in gas evolution by the direct measurement of ground gases from gas wells. The works included measurement of methane, carbon dioxide, oxygen, hydrogen sulphide, carbon monoxide, gas flows and barometric pressure. A PID survey was undertaken to measure volatile organic compounds within the borehole response zones.

Results

- 8.6 Three rounds of gas monitoring were undertaken during March 2025. At each of the monitoring visits the wells were flooded with ground water levels lying at around 0.6m to 0.8m bgl i.e. above the response zone within the well. The results, in particular the flow readings, are therefore unlikely to be representative.
- 8.7 The minimum and maximum steady state concentrations recorded for borehole flow, oxygen, carbon dioxide and methane are summarised below in **Table 8:1**. The full Ground gas monitoring results are presented in **Appendix 3**.

Table 8:1 : Summary of Recorded Ground Gas Results

Borehole ID	Targeted Geology	Steady Flow (l/hr)		Carbon Dioxide (%v/v)		Methane (%v/v)		Borehole Specific Classification (CS)
		min.	max.	min.	max.	min.	max.	
DS01	Glaciofluvial Deposits	<0.1	40.1	2.6	4.4	<0.1	<0.1	3

Borehole ID	Targeted Geology	Steady Flow (l/hr)		Carbon Dioxide (%v/v)		Methane (%v/v)		Borehole Specific Classification (CS)
		min.	max.	min.	max.	min.	max.	
DS02	Glaciofluvial Deposits	<0.1	<0.1	0.2	0.7	<0.1	<0.1	1
DS03	Glaciofluvial Deposits	<0.1	4.0	<0.1	<0.1	<0.1	<0.1	1

8.8 The atmospheric pressures were recorded as follows:

- Round 1 – 999mB during the site visit falling from 1011mB over the preceding 12 hours;
- Round 2 – 998mB during the site visit falling from 1005mB over the preceding 12 hours; and
- Round 3 – 1006mB during the site visit falling from 1017mB over the preceding 12 hours.

8.9 On this basis, the monitoring is considered likely to have captured the worst-case gassing scenario at the site as generally, ground gas emissions tend to increase when atmospheric pressure falls rapidly. However as indicate above, due to flooding of the wells, the flow readings are unlikely to representative of the site.

8.10 Hydrogen sulphide and carbon monoxide concentrations were not recorded above the limit of detection of the equipment during the monitoring visits.

8.11 PID concentrations were recorded between 0.6ppm and a maximum of 2.0ppm in borehole DS03 on 21/03/25.

Risk Assessment

8.12 CIRIA Report 665 "Assessing Risks Posed by Hazardous Ground Gases to Buildings" presents current best practice on the assessment of ground gases for commercial and residential buildings (with the exception of low rise traditional housing). The report presents a risk based approach based on gas screening values which depend on both the concentration and emission rate of gas from the ground. Gas screening values are calculated as follows:

$$\text{Gas screening value (l/hr)} = \frac{\text{gas concentration (\%)} \times \text{measured borehole flow rate (l/h)}}{100}$$

8.13 Gas screening values should be calculated on a borehole basis in the first instance. Consideration of worst case i.e. highest flow and highest concentrations should only be considered if the CSM warrants it.

8.14 A maximum gas screening value of 1.764 l/hr CO₂ was recorded in DS01 giving a classification of CS3. However, this is using the highest flow rate which as indicated above is not likely to be representative of the site due to the monitoring wells being

flooded. Using a flow rate of <0.1% the gas screening value would reduce to 0.004 l/hr CO₂ giving a classification of CS1.

- 8.15 Only limited Made Ground (max 0.6m thick) was recorded at the site. Made Ground at the site is therefore unlikely to comprise a significant source for ground gas.
- 8.16 The low concentration of carbon dioxide recorded at the site (maximum of 4.4%) are representative of the natural respiration of the Glaciofluvial Deposits. At these concentrations the risk from carbon dioxide is conserved to be low.
- 8.17 Total Organic Carbon (TOC) content of the granular Made Ground was recorded at 0.5% (DS03 0.25m-0.35m) and 0.6% (DS03 0.35m-0.45m) beneath the proposed building.
- 8.18 Total Organic Carbon (TOC) content of the Glaciofluvial sand deposits was recorded at 0.4% (DS01 0.8-0.85m) and 1.2% (DS02 0.6-0.7m).
- 8.19 CL:AIRE RB17 (November 2012) and Table D.1 included within BS8485:2015 (+A1 2019) recommends a Characteristic Situation 2, for TOC (%) between ≤ 1.0 and $\leq 1.5\%$ and Characteristic Situation 3, for TOC (%) between ≤ 1.5 and $\leq 4.0\%$ recorded in Made Ground with thicknesses of less than 3.0m that has been in place for less than 20 years.

Recommendations

- 8.20 During monitoring all of the wells were flooded. The apparent 'flow' readings are therefore unlikely to be representative of ground gas flows at the site.
- 8.21 Only limited Made Ground was recorded at the site.
- 8.22 Given the recorded CO₂ concentration and TOC of Made Ground and natural soils, conservatively a classification of CS2 should be adopted for the site. Further gas monitoring when the wells are not flooded may allow this to be reduced to CS1.
- 8.23 Overall, the risk from ground gas at the site is considered to be low.
- 8.24 At this stage the construction details for the pavilion are not known. If a cast insitu ground floor slab is being proposed for the building it is considered that the damp proof course and slab will provide sufficient protection for the low concentrations of carbon dioxide at the site. If a block and beam floor is being considered, without additional gas monitoring, it is considered that a gas membrane should be installed.

9. CONTAMINANT DISTRIBUTION

Soils

- 9.1 Contamination data have been compared conservatively to a generic site assessment criterion (GSAC) for a residential end use with no plant uptake. The soil chemical laboratory results are presented as **Appendix 4** and details of the derivation of the GSACs are presented in **Appendix 6**. The criteria includes reference to the LQM/CIEH S4ULs for Human Health Risk Assessment Copyright Land Quality Management Limited reproduced with permission; publication number S4UL3271.
- 1.2 The proposed development brings together several existing and new facilities to form a new multi-sports hub in Wythenshawe Park. The works include the construction of a new single-storey pavilion to the east of the existing athletics track, the provision of new artificial grass pitches and 'MUGAs' to the south of the new building and alterations / extension of the car park.
- 9.2 The assessment has conservatively been undertaken for a residential end use with no plant uptake therefore the key receptor is considered to be a female child in the first six years of life and GSACs for residential without plant uptake have been adopted.
- 9.3 A summary of the soil chemical laboratory results is presented in **Table 9:1** below.

Table 9:1 : Summary of Soil Chemical Testing Results

Contaminant	No of Samples	Range of Concentrations	Generic Screening level (mg/kg)	No of Exceedances
Heavy Metals				
Arsenic	12	1.2 to 10	40	0
Barium	12	13 to 100	1,350	0
Beryllium	12	0.08 to 0.96	1.70	0
Boron	12	0.2 to 0.7	1,100	0
Cadmium	12	< 0.1 to 0.4	85	0
Chromium VI	12	< 0.5 to 1.8	6	0
Chromium III	12	3.2 to 23	910	0
Copper	12	6.2 to 92	7,100	0
Lead	12	4.6 to 59	310	0
Inorganic Mercury	12	< 0.05 to 0.3	56	0
Nickel	12	1.6 to 19	180	0
Selenium	12	< 0.25 to 1	430	0
Vanadium	12	2.9 to 28	1,200	0
Zinc	12	3.5 to 59	4,000	0

Contaminant	No of Samples	Range of Concentrations	Generic Screening level (mg/kg)	No of Exceedances
Inorganics				
Cyanide (free)	12	< 0.5 to 1	43	0
Cyanide (Complex)	12	< 0.5 to 2.3	213	0
Phenol	12	< 0.1 to 1	440	0
Petroleum Hydrocarbons				
TPH (EC5-6) aliphatic	4	< 0.01	78	0
TPH (>EC6-8) aliphatic	4	< 0.01	230	0
TPH (>EC8-10) aliphatic	4	< 0.01	65	0
TPH (>EC10-12) aliphatic	4	< 1 to 1.2	330	0
TPH (>EC12-16) aliphatic	4	< 2 to 4	240	0
TPH (>EC16-21) aliphatic	4	< 8 to 9.6	9,200	0
TPH (>EC21-35) aliphatic	4	< 8 to 62	9,200	0
TPH (>EC6-7) aromatic	4	< 0.01	690	0
TPH (>EC7-8) aromatic	4	< 0.01	1,800	0
TPH (>EC8-10) aromatic	4	< 0.02	110	0
TPH (>EC10-12) aromatic	4	< 1	590	0
TPH (>EC12-16) aromatic	4	< 2	2,300	0
TPH (>EC16-21) aromatic	4	< 10	1,900	0
TPH (>EC21-35) aromatic	4	< 10 to 54	1,900	0
Total TPH	12	< 10 to 180	500	0
Polycyclic Aromatic Hydrocarbons				
Naphthalene	12	< 0.1 to 0.05	5.60	0
Acenaphthylene	12	< 0.1 to 0.05	4,600	0
Acenaphthene	12	< 0.1 to 0.05	4,700	0
Fluorene	12	< 0.1 to 0.05	3,800	0
Phenanthrene	12	< 0.1 to 0.12	1,500	0
Anthracene	12	< 0.1 to 0.05	35,000	0
Fluoranthene	12	< 0.1 to 0.24	1,600	0
Pyrene	12	< 0.1 to 0.25	3,800	0
Benzo(a)anthracene	12	< 0.1 to 0.13	14	0
Chrysene	12	< 0.1 to 0.15	31	0
Benzo(b)fluoranthene	12	< 0.1 to 0.15	4	0
Benzo(k)fluoranthene	12	< 0.1 to 0.07	11	0
Benzo(a)pyrene	12	< 0.1 to 0.12	0.32	0
Indeno(123-cd)pyrene	12	< 0.1 to 0.08	46	0

Contaminant	No of Samples	Range of Concentrations	Generic Screening level (mg/kg)	No of Exceedances
Dibenzo(ah)anthracene	12	< 0.1 to 0.05	0.32	0
Benzo(g,h,i)perylene	12	< 0.1 to 0.11	360	0

- 9.4 No contaminants within the Made Ground or near surface natural soils have been found to exceed the GSACs for a "Residential with no plant uptake" end use.
- 9.5 A low pH value of 4.3 was recorded in the Made Ground in DS05 from 0.4 to 0.5m bgl. Elevated pH values of 10.7 and 10.1 were recorded in the Made Ground in DS03 at 0.25 to 0.35m and 0.50 to 0.6m bgl respectively.
- 9.6 Four samples were submitted for asbestos screening, asbestos was not identified in any sample.

Soil Leachate

- 9.7 Three samples taken from the limited Made Ground encountered on the site, were analysed for a variety of leachable contaminants. Screening sheets of the concentrations and adopted guideline concentrations are presented within **Appendix 8**, with a summary presented below in **Table 9:2**.

Table 9:2: Summary of Soil Leachate Chemical Testing Results

Contaminant	Number of Tests	Range of concentrations (µg/l)		EQS Generic Screening level (µg/l)	UKDWS Generic Screening level (µg/l)
		Min	Max		
Arsenic	3	< 1.0	2.00	50	10
Barium	3	9.00	37.00	-	1000
Beryllium	3	< 0.2	< 0.2	NA	NA
Boron	3	< 10	34.00	2000	1000
Cadmium	3	< 0.08	< 0.08	0.08	5.0
Chromium III	3	2.10	37.00	4.7	50
Copper	3	17.00	25.00	1.0	2000
Lead	3	< 1.0	2.10	1.2	10
Mercury	3	< 0.5	< 0.5	0.07	1.0
Nickel	3	1.30	2.60	4.0	50
Selenium	3	< 4.0	< 4.0	-	10
Vanadium	3	3.00	6.50	20	NA
Zinc	3	13.00	34.00	10.9	5000
pH	3	7.10	11.50		>6.5 - <9
Cyanide (total)	3	< 10	< 10	1.0	50.00

Contaminant	Number of Tests	Range of concentrations (µg/l)		EQS Generic Screening level (µg/l)	UKDWS Generic Screening level (µg/l)
		Min	Max		
Sulphate as SO ₄	3	1.95	19.1	400	250.00
NA – Screening Criteria not available					

10. HUMAN HEALTH RISK ASSESSMENT

10.1 Soil contaminant data have been compared against Generic Site Assessment Criteria (GSAC) developed by BWB using the CLEA model 1.06 and the updated CLEA framework (2009) for assessing risk from soil contamination to human health. Details of the derivation of the GSACs are presented in **Appendix 6**. The results of the soil chemical laboratory results are provided within **Appendix 4** with a table summarising the results presented as **Appendix 7**.

10.2 The GSACs have been developed with the following assumptions which have been changed from the CLEA default parameter set. Soil type is a sandy loam with an organic matter content of 1%. This is considered to be more representative of shallow Made Ground found on most Brownfield sites than the CLEA default of 6% organic matter.

Pathways

10.3 The site is to be developed for recreational end use therefore the key receptor is considered to be a female child aged 3 to 9.

10.4 Contamination data have been conservatively compared to generic site assessment criteria (GSAC) for a residential end use with no plant uptake based on an organic matter content of 1%.

10.5 Exposure pathways considered in this assessment are presented in **Table 10:1**.

Table 10:1 : Residual Exposure Pathways

Source:	Shallow Soils			Deep Soils
Pathway	Residential housing with private gardens	Residential housing with communal landscaped areas	Residential housing with hard standing areas	Residential housing
Ingestion of Soil	✓	✓	✗	✗
Ingestion of site derived household dust	✓	✓	✗	✗
Ingestion of contaminated vegetables	✓	✗	✗	✗
Ingestion of soil attached to vegetables	✓	✗	✗	✗
Dermal contact with Soil	✓	✓	✗	✗
Dermal contact with site derived household dust	✓	✓	✗	✗
Inhalation of fugitive soil dust	✓	✓	✗	✗
Inhalation of fugitive site derived household dust	✓	✓	✗	✗
Inhalation of vapours outside	✓	✓	✓	✓

Source:	Shallow Soils			Deep Soils
Inhalation of vapours inside	✓	✓	✓	✓

Sources

- 10.6 Made Ground was principally encountered to the north of the site beneath existing hardstanding,
- 10.7 A thin localised area of Made Ground was also identified to the east in DS09, which is located to the south west of the existing athletics track.
- 10.8 When compared to the screening criteria, all contaminants were recorded below the relevant criteria.
- 10.9 No asbestos was detected within the samples tested.

Summary

- 10.10 Based on the above findings it is considered that the recorded contaminant concentrations do not pose an unacceptable risk to human health.

11. CONTROLLED WATERS RISK ASSESSMENT

11.1 No groundwater or surface water testing has been undertaken as part of this assessment. However, soil leachability has been undertaken for a number of metals in the Made Ground. The soil leachability results are presented within **Appendix 4**.

11.2 The controlled waters assessment considers the potential impact of on-site contamination to pertinent controlled waters receptors identified at the site including:

- Secondary A Aquifer beneath the site within Glaciofluvial superficial deposits;
- Bagley Brook.

Pathways

11.3 Controlled water risk assessment has been undertaken through assessment of leachable concentrations of contaminants in soil referring to exposure pathways considered and referencing **Table 16**.

Table 11:1 : Controlled Water Exposure Pathways

Controlled Waters Exposure Pathway	Receptor
Leaching of soil contamination into recharge infiltration	✓
Vertical migration of impacted pore water through unsaturated zone into underlying aquifer	✓
Horizontal migration of groundwater through aquifer to off-site receptors	✓

11.4 It is considered appropriate to adopt Environmental Quality Standards (EQS) for freshwater when assessing the risk to the surface water receptors, and the UK Drinking Water Standards (DWS) for assessing the risk to the underlying Aquifers. Where EQS are not available, World Health Organisation Standards (WHO) and UK Drinking Water Standards (DWS) have been adopted as the relevant screening criteria.

Soil Leachate

11.5 When the results of the leachate laboratory testing are compared to UK DWS, no exceedances of the guideline concentrations have been recorded.

11.6 When compared to the EQS Criteria, exceedances of lead was recorded in one sample (DS09 0.4-0.5m), chromium were recorded in two samples (DS06 0.25-0.35m, DS04 0.35-0.45m) and exceedances of copper and zinc in all three samples.

11.7 The concentrations are typical of natural background levels and are not indicative of a significant source of contamination.

11.8 No potential sources of chromium, copper, lead or zinc have been identified on site. The leachate exceedances have been recorded within the Made Ground. The Made Ground on site is a thin layer which is typically encountered beneath existing hardstanding to the north of the site. The proposed development will also typically be comprised of hardstanding in the locations where Made Ground was recorded.

Therefore, BWB does not consider the leachable heavy metals to represent a risk to the underlying aquifer in the context of the proposed development, as the potential for soil leaching is reduced due to the reduced infiltration.

12. UPDATED ENVIRONMENTAL RISK ASSESSMENT

12.1 An updated assessment of pollutant linkages has been undertaken following completion of a ground investigation at the site and is presented as **Table 12:1**.

Sources

- Total Organic Carbon (TOC) content of the Made Ground and Glaciofluvial Deposits (2023 investigation) was recorded between 1.9% and 2.6% respectively;
- Marginally elevated leachable heavy metals have been recorded in the shallow Made Ground above EQS assessment criteria.

Pathways

- Vertical migration of contaminants in the soil leachate;
- Lateral migration of contaminants within the groundwater; and
- Accumulation of gas leading to explosion and asphyxiation within the new developments.

Receptors

- Future site users;
- Construction and groundworkers;
- Bagley Brook located immediately south of the site.

Table 12:1 : Updated Conceptual Site Model

Source	Pathway	Receptor	Con	Prob	Risk	Mitigation/Investigation
S1: On site: Made Ground – Potential contaminants may include heavy metals, Petroleum hydrocarbons, asbestos and hazardous ground gases (carbon dioxide/methane).	P3: Lateral migration of contaminated groundwater.	R5: Baguley Brook	Md	UI	L	<p>The leachate concentrations are considered low. Given that the site is principally underlain by low permeability soils, it is considered unlikely that the low leachate concentrations would migrate towards the nearby surface water bodies at elevated concentrations. The area to the north where the majority of the Made Ground is present is currently covered hardstanding and the proposed development will also be predominantly covered by buildings and hard standing surface cover, therefore limiting any potential for mobilisation of contaminants within the Made Ground. Therefore, BWB considers that leachable contaminants and contaminants within groundwater do not represent a plausible risk to controlled waters.</p> <p>The recommendations of DEFRA and EA guidance document '<i>Pollution prevention for businesses</i>' should be considered during construction.</p>
	P5: Migration and accumulation of ground gasses in enclosed spaces leading to explosion (methane).	R2: Future site users	Sv	Lw	L	<p>Limited Made Ground is present on the site which is not considered to represent a significant source of ground gas.</p> <p>Low concentrations of CO₂ were recorded up to a maximum of 4.4%. At these concentrations the risk from carbon dioxide is conserved to be low.</p> <p>TOC concentrations in the Made Ground and natural soils beneath the pavilion ranged from 0.4% to 1.2%. indicates a potential risk from ground gases.</p> <p>Given the recorded CO₂ concentration and TOC of Made Ground and natural soils, conservatively a classification of CS2 should be adopted for the Site. Further gas monitoring when the wells are not flooded may allow this to be reduced to CS1.</p>

Source	Pathway	Receptor	Con	Prob	Risk	Mitigation/Investigation
						At this stage the construction details for the pavilion are not known. If a cast insitu ground floor slab is being proposed for the building it is considered that the damp proof course and slab will provide sufficient protection for the low concentrations of carbon dioxide at the site. If a block and beam floor is being considered, without additional gas monitoring, it is considered that a gas membrane should be installed.
<p>VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low</p> <p>KEY: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor Hi = High, Li = Likely, Lw = Low Likelihood, UI = Unlikely</p>						
<p>Pollutant Linkage Assessment Summary</p> <p>When considered in the context of the conceptual site model and the historical activities that have taken place, the proposed development is considered to pose a LOW risk to human health. It is considered that the main driver for the risk rating for human health is migration and accumulation of ground gases related to potential Made Ground and organic rich soils on the site.</p> <p>The risk posed to controlled waters is predominantly considered to be LOW due to the limited contaminative sources identified on site.</p>						

13. WASTE MANAGEMENT

Waste Classification

- 13.1 Soil samples have been characterised against hazardous waste criteria using Hazwasteonline. The results of the waste classification are presented in **Appendix 9**. The assessment indicates that the soils analysed are likely to be classified as non-hazardous. The waste classification assessment only applies to those soils that have been tested. If other soils are to be disposed of off-site then further analysis may be required.
- 13.2 Asbestos has not been found at the site. The presence of visible asbestos containing materials in waste or at concentrations exceeding 0.1% by weight will classify the waste as mixed and require disposal as hazardous waste irrespective of the chemical properties of the waste.
- 13.3 Should any soils require disposal off site an assessment of waste classification of the soils for disposal should be made by a competent person. Further chemical analysis may be required to fully characterise waste soils for disposal to landfill or re-use off site. WAC analysis may be required for disposal of soils as inert or hazardous.

Waste Acceptance Criteria

- 13.4 WAC testing was not completed on two samples of Made Ground. The results indicated the sample from DS01 passed the inert WAC, and the sample from DS05 failed the inert WAC criteria based on elevated sulphate concentrations.

14. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 14.1 The ground conditions were generally recorded as topsoil or hardstanding/Made Ground over interbedded loose to medium dense sand and firm to stiff, locally soft to firm clay to depths of at least 5.45m bgl.
- 14.2 During the post-investigation groundwater monitoring, groundwater was recorded in the monitoring wells. Resting levels were recorded at depths of between 0.60m and 0.78m bgl during these monitoring visits. This is likely to be perched water within the granular soils.

Environmental

- 14.3 No exceedances were recorded when screened against the respective LQM/CIEH S4UL, for a residential with no uptake end use, screening criteria for risks to human health. No asbestos was recorded in any of the Made Ground samples tested.
- 14.4 Low concentrations of metals have been recorded in leachate and samples of the groundwater above EQS screening criteria. BWB considers it possible that the shallow soils on site could be impacting upon the groundwater quality. However, the levels of exceedances are not considered significant to the recorded concentrations of contaminants in samples. No groundwater testing was included within the commission.
- 14.5 As the Made Ground is limited on site, principally located beneath existing hardstanding in the north, and the proposed development will comprise buildings or hardstanding in the north, which will limit further infiltration and leaching, BWB does not consider that controlled waters will be exposed to an unacceptable risk as a result of the proposed development.
- 14.6 The site is considered a low risk from ground gases. Given the recorded CO₂ concentration and TOC of Made Ground and natural soils, conservatively a classification of CS2 should be adopted for the site. Further gas monitoring when the wells are not flooded may allow this to be reduced to CS1.
- 14.7 At this stage, the construction details for the pavilion are not known. If a cast insitu ground floor slab is being proposed for the building it is considered that the damp proof course and slab will provide sufficient protection for the low concentrations of carbon dioxide at the site. If a block and beam floor is being considered, without additional gas monitoring, it is considered that a gas membrane should be installed.

Geotechnical

- 14.8 Medium dense sand and medium strength clay deposits will provide the bearing stratum for shallow traditional pad or strip footings. Ground water levels monitored in standpipes are typically 0.7m below ground level so ground water is assumed to be at (or above) foundation level, and will need to be managed during construction.

- 14.9 Assuming spread footing foundations are placed at minimum depth of 1.0m the underlying medium strength silty clays will determine the allowable loads and footings sizes. A characteristic undrained strength of 50KPa has been selected. Assuming a 1.0m wide strip footing the ultimate bearing capacity of the clay will be on the order of 250KN/m². Given the stiffness of the clays, it is advised permanent dead loads should be kept below 100KPa to avoid excessive settlements of >25mm.
- 14.10 A full settlement assessment will be required once detailed design loads, foundation dimensions and pressures become available.
- 14.11 A lightly loaded ground-bearing ground floor slab is considered suitable for the proposed development. The long-term settlement of the floor slab will depend on a number of factors including the structural design of the slab, the duration, intensity and distribution of the applied loadings as well as the strength, compressibility and history of the soils beneath the slab. It is likely that a ground bearing floor slab will be a viable option following removal of any soft underlying soils and replacement with a compacted granular Fill. This conclusion should be reviewed at detailed-design stage.
- 14.12 Recomacted laboratory CBR test have been carried out on samples of the medium grained silty sand with CBR values of <1%. For the site clays, given the plasticity of these soils, a preliminary design value of 2.5% should be anticipated.
- 14.13 Given the foregoing, it is anticipated that some form of capping or improvement of the subgrade will be required prior to construction of new hardstanding. Consideration should be given to some form of chemical modification (lime or cement) in order to increase the subgrade stiffness, in order to meet the required design CBR value.
- 14.14 Based on the ground conditions encountered together with the variable and shallow groundwater issues in the area, soakaway drainage is unlikely to be a viable solution.
- 14.15 Groundwater is likely to vary greatly seasonally at the site. From the ground investigation information, shallow perched groundwater has been noted in sand beds which could cause some issues in excavations. Running sands may be an issue given the saturated sand beds within the clays.

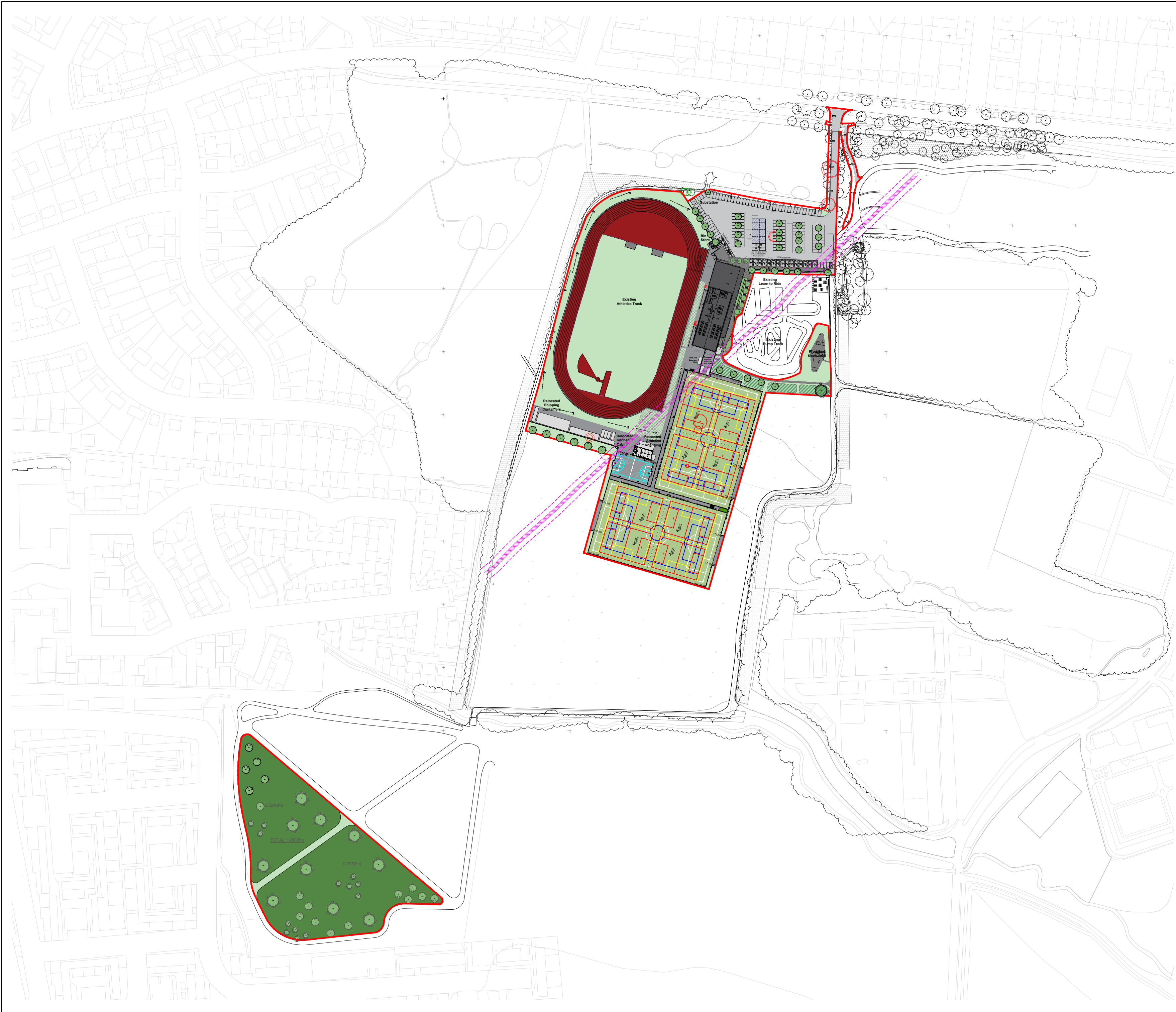
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DRAWINGS

Drawing 1: Proposed Site Plan



RESPONSIBILITY IS NOT ACCEPTED FOR OTHERS SCALING DIRECTLY FROM THIS DRAWING. DO NOT SCALE FROM THIS DRAWING, USE WRITTEN DIMENSIONS ONLY.

0 20m 50m 100m
1:2000
ORIGINAL SHEET SIZE **A2**

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KEY PLAN



Notes:

The site drawing is based on a combination of Ordnance Survey mapping and topographical survey. The initial topographical survey was carried out by BrightSurv Ltd in May 2023 and was updated in February 2025 to include the access road entrance. A further update to the topographical survey was completed in July 2025, extending coverage to the North-East of the site along Wythenshawe Road.

Landscaping coordinated with latest proposals.						
P11	NN	08.09.25	MR	08.09.25	RB	08.09.25
Building footprint adjusted in line with relocated positioning. Landscaping to be amended to suit - further coordination required.						
P10	NN	04.09.25	MR	04.09.25		
Building location amended outside of sewer exclusion zone. Landscaping to be amended to suit - further coordination required.						
P09	NN	28.08.25	MR	28.08.25		
REV	DRAWN	DATE	CHECKED	DATE	APPROVED	DATE



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CLIENT
Manchester City Council

PROJECT
Wythenshawe Park Sports Hub

TITLE
Proposed Site Plan

SCALE 1:2000 DISCIPLINE Architect PROJECT NUMBER 118165

DRAWING NUMBER **NPS-XX-00-D-A-0803** REV CODE **P11**

STATUS CODE S1	PURPOSE OF ISSUE Information	Drawn by NN	Approved by RB
		Checked by MR	

Drawing 2: Exploratory Hole Location Plan



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan

Legend

DS**
Denotes Location of
Dynamic Sampling Borehole

P01	29.04.25	Preliminary Issue	RT	CRi
Rev	Date	Details of issue / revision	Drw	Rev

Issues & Revisions



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- ☐ Leeds | 0113 233 8000
- ☐ London | 020 7407 3879
- ☐ Manchester | 0161 233 4260
- ☒ Nottingham | 0115 924 1100

www.bwbconsulting.com

Client
ETEC CONTRACT SERVICES LIMITED T/A Etec Group

Project Title
Wythenshawe Park

Drawing Title
Exploratory Hole Location Plan

Drawn:	R. Theobalds	Reviewed:	C. Riley
BWB Ref:	244550	Date:	29.04.25
		Scale@A1:	1:1000

Drawing Status
PRELIMINARY

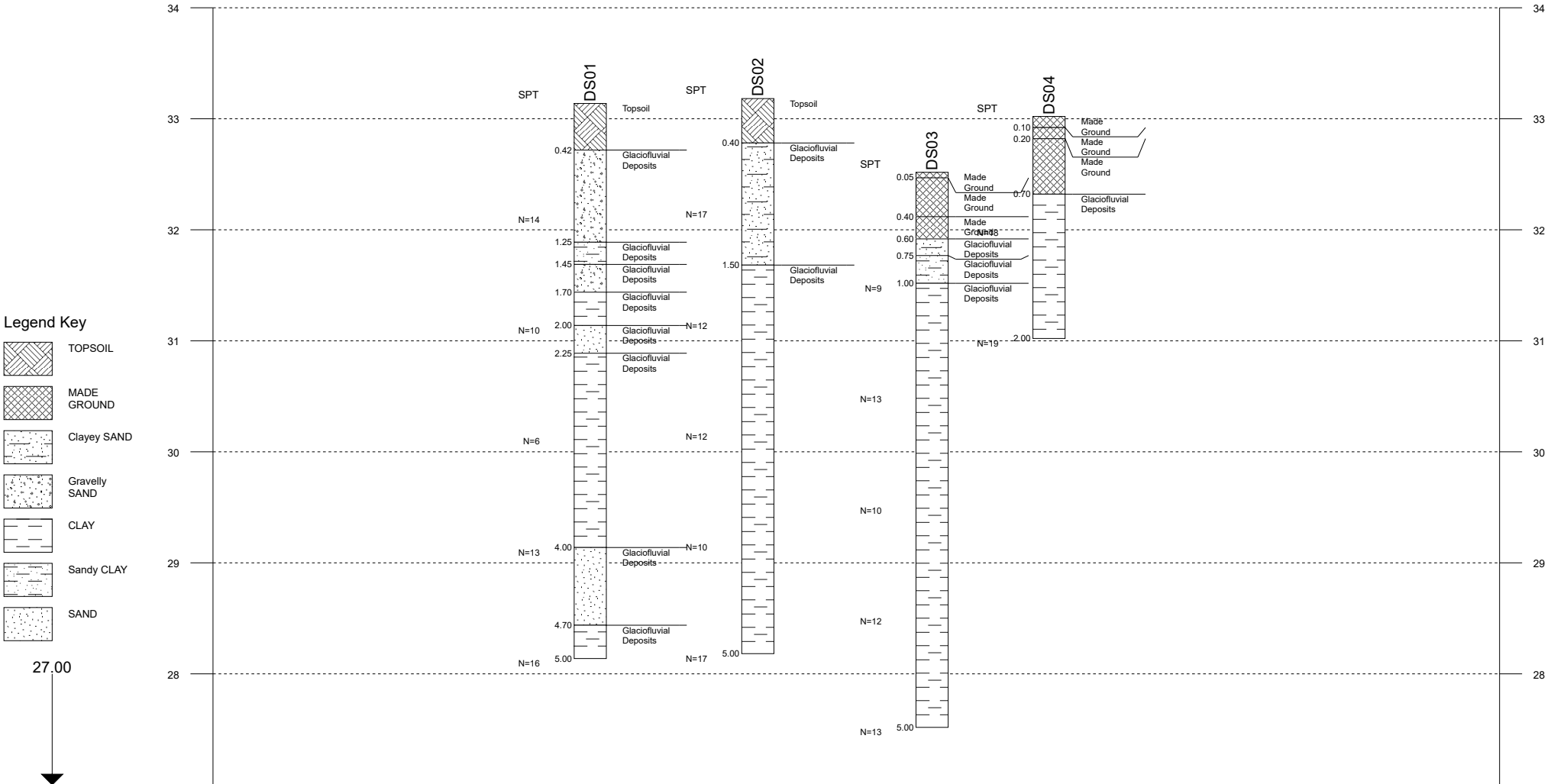
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
244550-BWB-XX-XX-DR-GI-0001	S1	P01

Drawing 3: Cross Section (Pavilion)

Project No: 244550
Location:
Client: ETEC Group

Title: Wythenshawe Park
Engineer: CRI

Scale
Vertical: 1:52
Horizontal: 1:942

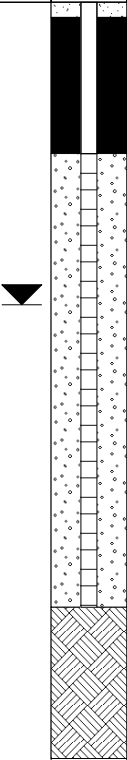


Chainage (m)	0.00	36.29	63.62	92.04	111.12	166.98
Offset (m)		0.63	0.45	9.43	11.73	
Elevation (mAOD)		33.14	33.18	32.52	33.02	

APPENDICES

Appendix 1: Exploratory Hole Logs

BOREHOLE LOG

LOCATION ID		Project Name: Wythenshawe Park				Ground Level (m AOD): 33.14						
DS01		Project Number: 244550				Eastings: 381056.37						
		Client: ETEC Group				Northings: 389966.66						
Hole Type: WLS		Rig: Archway Dart		Start & End Date: 03/03/2025 - 04/03/2025		Engineer: CRi		Checker:				
Boring		Strata				Samples		In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
		(0.42)	Dark brown sandy slightly gravelly CLAY. Some rootlets (Topsoil)			ES1	0.15	0.25				
		32.72 (0.83)	Medium dense brown becoming yellowish brown clayey slightly gravelly SAND. Sand is fine to medium. Gravel is medium to coarse subrounded sandstone. (Glaciofluvial Deposits)		0.42	B1	0.45	0.90				
						ES2	0.80	0.85				
		31.89 (0.20)	Firm to stiff dark brown slightly sandy CLAY. (Glaciofluvial Deposits)		1.25				SPT	1.00	N=14 (4,4/3,2,3,6)	
		31.69 (0.25)	Medium dense brown slightly gravelly SAND. Sand is fine to medium. Gravel is fine subrounded quartz. (Glaciofluvial Deposits)		1.45				HSV	1.30	89kPa	
		31.44 (0.30)	Firm to stiff dark brown slightly sandy CLAY. (Glaciofluvial Deposits)		1.70				HSV	1.80	81kPa	
		31.14 (0.25)	medium dense brown fine to medium SAND. (Glaciofluvial Deposits)		2.00	D1	1.90	2.00	HSV	1.90	82kPa	
		30.89 (1.75)	Soft to firm dark brown CLAY. (Glaciofluvial Deposits)		2.25				SPT	2.00	N=10 (1,2/2,2,3,3)	
									HSV	2.50	46kPa	
									SPT	3.00	N=6 (1,1/1,1,2,2)	
		29.14 (0.70)	Medium dense brown fine to medium SAND. (Glaciofluvial Deposits)		4.00				SPT	4.00	N=13 (1,1/2,3,4,4)	
		28.44 (0.30)	Soft to firm dark brown CLAY. (Glaciofluvial Deposits)		4.70				HSV	4.80	43kPa	
		28.14	Hole Terminated at 5.00m bgl.		5.00				SPT	5.00	N=16 (1,2/3,4,4,5)	
Chiseling		Remarks										
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:									
			Target depth reached.									
Groundwater Remarks:			Groundwater at 2.00m bgl on completion.									
Water Added			Other Remarks:									
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Upon completion borehole collapsed to 4.00m bgl. Gas/Groundwater Monitoring well installed. Cased to 1m.									
												

BOREHOLE LOG

Scale 1:50

Sheet 1 of 1

LOCATION ID		Project Name: Wythenshawe Park						Ground Level (m AOD): 33.18				
DS02		Project Number: 244550						Eastings: 381061.32				
		Client: ETEC Group						Northings: 389993.57				
Hole Type: WLS		Rig: Archway Dart		Start & End Date: 03/03/2025 - 04/03/2025				Engineer: CRi		Checker:		
Boring		Strata					Samples			In-Situ Tests		
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
		0.40	Dark brown sandy slightly gravelly CLAY. Some rootlets (Topsoil)		0.40							
		32.78 [1.10]	Medium dense brownish grey slightly silty SAND. Sand is fine to medium. (Glaciofluvial Deposits)			ES3	0.60	0.70				
						ES4	1.10	1.20	SPT	1.00	N=17 (4,6/6,5,3,3)	
		31.68 [3.50]	Soft to firm brown CLAY. (Glaciofluvial Deposits)		1.50	D2	1.50	1.60				
									HSV	1.70	49kPa	
									HSV	1.90	93kPa	
									SPT	2.00	N=12 (2,3/3,3,3,3)	
									HSV	2.60	92kPa	
						D3	2.80	2.90	HSV	2.90	85kPa	
									SPT	3.00	N=12 (2,3/3,3,3,3)	
									HSV	3.60	57kPa	
									HSV	3.90	62kPa	
									SPT	4.00	N=10 (2,2/2,2,3,3)	
									HSV	4.60	49kPa	
									HSV	4.90	46kPa	
		28.18	Hole Terminated at 5.00m bgl.		5.00				SPT	5.00	N=17 (2,3/4,4,4,5)	
Chiseling			Remarks									
From (m bgl)	To (m bgl)	Time (hh:mm)										
			Reason for Termination:									
			Target depth reached.									
Water Added			Groundwater Remarks:									
From (m bgl)	To (m bgl)	Volume (l)	No groundwater encountered.									
			Other Remarks:									
			Location cleared of buried services. Installed with gas and groundwater monitoring well upon completion. Cased to 2m.									

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BOREHOLE LOG

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Sheet 1 of 1

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BOREHOLE LOG

Scale 1:50

Sheet 1 of 1

[illegible]

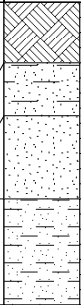
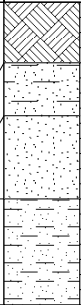
BOREHOLE LOG

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Sheet 1 of 1

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BOREHOLE LOG

LOCATION ID		Project Name: Wythenshawe Park					Ground Level (m AOD): 33.42							
DS06		Project Number: 244550					Eastings: 381103.63							
		Client: ETEC Group					Northings: 389997.09							
Hole Type: WLS		Rig: Archway Dart			Start & End Date: 04/03/2025 - 05/03/2025			Engineer: CRi		Checker:				
Boring		Strata					Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)		
		(0.40)	TOPSOIL: Dark brown sandy slightly gravelly clay. Some rootlets		0.40	ES9	0.10	0.20	SPT	1.00	N=8 (2,2/2,2,2,2)			
		33.02 [0.35]	(Topsoil)			ES10	0.60	0.70						
		32.67 [0.55]	Dark brown clayey SAND. Sand is fine to medium (Glaciofluvial Deposits)											
			Loose yellowish brown SAND. Sand is fine to medium (Glaciofluvial Deposits)											
		32.12 [0.70]	Firm to stiff brown slightly sandy CLAY. (Glaciofluvial Deposits)											
		31.42	Hole Terminated at 2.00m bgl.											
Chiselling		Remarks												
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:											
			Target depth reached.											
Groundwater Remarks:			Groundwater at 0.80m bgl on completion.											
Water Added			Other Remarks:											
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Backfilled with arisings upon completion.											


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BOREHOLE LOG

LOCATION ID		Project Name: Wythenshawe Park					Ground Level (m AOD): 33.25							
DS07		Project Number: 244550					Eastings: 381095.75							
		Client: ETEC Group					Northings: 389913.14							
Hole Type: WLS		Rig: Archway Dart			Start & End Date: 04/03/2025 - 05/03/2025			Engineer: CRi		Checker:				
Boring		Strata					Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)		
		(0.40)	TOPSOIL: Dark brown sandy slightly gravelly clay. Some rootlets (Topsoil)		0.40	ES11	0.30	0.40						
		32.85 [0.60]	Orangish brown clayey SAND. Sand is fine to medium (Glaciofluvial Deposits)			B3	0.60	1.00						
		32.25 [1.00]	Stiff brown mottled grey CLAY. (Till)		1.00				SPT	1.00	N=15 (2,2/3,3,4,5)			
			Band of brown fine to coarse sand from 1.65 to 1.80m			D10	1.20	1.30	HSV	1.20	95kPa			
									HSV	1.50	130kPa			
		31.25	Hole Terminated at 2.00m bgl.		2.00				HSV SPT	1.90 2.00	111kPa N=11 (2,3/3,2,3,3)			
Remarks														
Chiselling			Reason for Termination: Target depth reached.											
From (m bgl)	To (m bgl)	Time (hh:mm)												
Groundwater Remarks: Groundwater at 1.65m bgl on completion.			Other Remarks: Location cleared of buried services. Upon completion borehole collapsed to 1.75m bgl. Backfilled with arisings.											
Water Added														
From (m bgl)	To (m bgl)	Volume (l)												



BOREHOLE LOG

Scale 1:50

Sheet 1 of 1

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BOREHOLE LOG

Scale 1:50

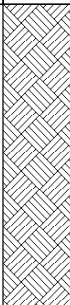
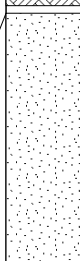
Sheet 1 of 1

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BOREHOLE LOG

Scale 1:50

Sheet 1 of 1

LOCATION ID DS10		Project Name: Wythenshawe Park					Ground Level (m AOD): 31.73							
		Project Number: 244550					Eastings: 381028.66							
		Client: ETEC Group					Northings: 389807.45							
Hole Type: WLS		Rig: Archway Dart			Start & End Date: 04/03/2025 - 05/03/2025			Engineer: CRi		Checker:				
Boring		Strata					Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description			Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
		(0.30)	TOPSOIL: Dark brown sandy slightly gravelly clay. Some rootlets (Topsoil)				0.30	ES14	0.10	0.20	SPT	1.00	N=8 (1,1/2,2,2,2)	
		31.43 [1.65]	Loose greyish brown SAND. Sand is fine to medium. (Glaciofluvial Deposits)											
		29.73	Hole Terminated at 2.00m bgl.											
Remarks														
Chiseling														
From (m bgl)	To (m bgl)	Time (hh:mm)												
			Reason for Termination: Target depth reached.											
Water Added														
From (m bgl)	To (m bgl)	Volume (l)	Groundwater Remarks: Groundwater at 0.45m bgl on completion.											
			Other Remarks: Location cleared of buried services. Upon completion borehole collapsed to 0.60m bgl. Backfilled with arisings.											




BOREHOLE LOG

Scale 1:50

Sheet 1 of 1

[illegible]

Appendix 2: SPT Calibration Certificate


 Scan the QR
 Code to verify!

EXAMINATION CARRIED OUT FOR:		EXAMINATION CARRIED OUT BY:	
P M SAMPLING LTD P M SAMPLING LTD 6 THETFORD CLOSE HINDLEY WIGAN GREATER MANCHESTER WN2 3XF		Archway Engineering (UK) Ltd Ainleys Industrial Estate, Elland, West Yorkshire, HX5 9JP	
TEST DATE:		NEXT TEST DATE:	
13-08-2024		13-08-2025	
REPORT NO:	REPORT TYPE:	EQUIPMENT TESTED:	SALES ORDER REF:
CERT00000168	Puwer	DART593	90491
DESCRIPTION:			
H/DUTY DART RIG			
EQUIPEMENT WAS:	Supplied new		
PARTICULARS OF ANY REPAIR, RENEWAL OR ALTERATION REQUIRED TO REMEDY THE DEFECT IDENTIFIED ABOVE:			
N/A			
EXAMINATION WAS CARRIED OUT:	Before being issue for the first time		
AS PART OF AN EXAMINATION SCHEME:	Yes		
AFTER EXCEPTIONAL CIRCUMSTANCES:	No		
IS ABOVE DEFECT OF IMMEDIATE DANGER:	No		
IS THE EQUIPMENT SAFE TO OPERATE:	Yes		
EXAMINATION CARRIED OUT BY:	SIGNATURE:		
Michael Toner			

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

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

SPT Hammer Ref: DART593
Test Date: 12/08/2024
Report Date: 13/08/2024
File Name: DART593.spt
Test Operator: MT

Instrumented Rod Data

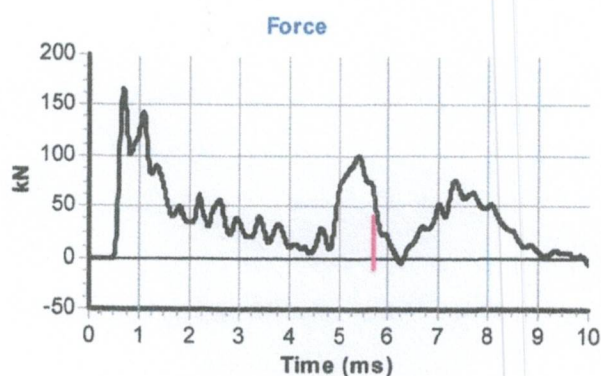
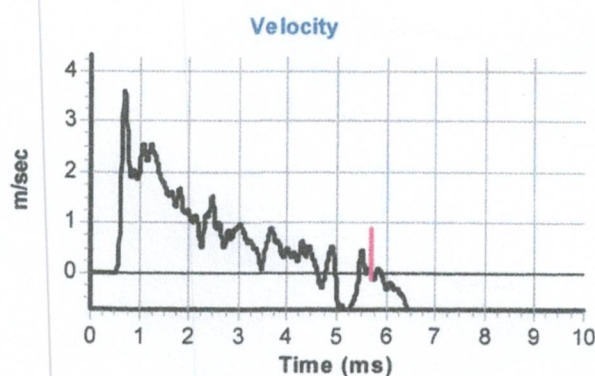
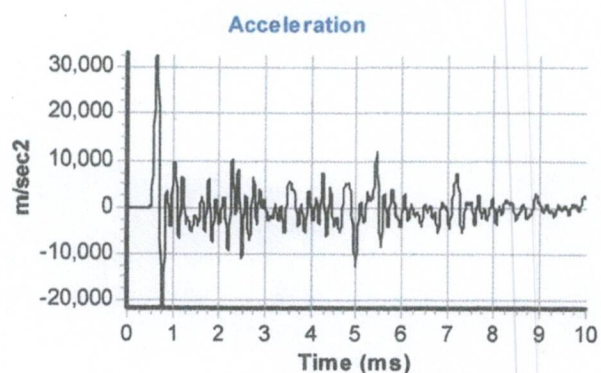
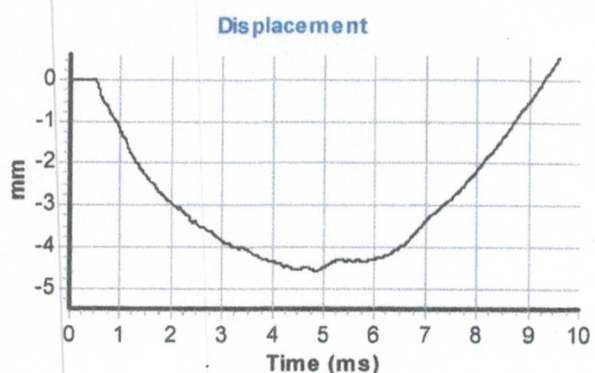
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.4
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 72572
Accelerometer No.2: 72572

SPT Hammer Information

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

Comments / Location

P M SAMPLING LTD - 90491



Calculations

Area of Rod A (mm²): 957
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 357

Energy Ratio E_r (%): **76**

Signed: M.TONER

Title: FITTER

The recommended calibration interval is 12 months

Appendix 3: Gas and Groundwater Monitoring Results

BWB
CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Dry	Dry
Wind Strength (m/s)	7.0	10.0
Wind Direction (from)	NNW	NNW
Temperature (°C)	6.0	6.0
Barometric Pressure (h Pa / mB)	999.0	999.0
App 12 Hour Pressure (h Pa / mB)	1011.0	
12 Hour Pressure Trend	Falling	
PID - Air		
PID - Calibration Gas		

Site:		Wythenshawe Sports Hub
Client:		Etec
Job No.:		244550
Date:		12 March 2025
Start / End Time:		11:26 / 12:05
Engineer:		C Riley
Monitoring Equipment:	Gas Meter ID	12044
	PID ID	79984
	Dip Tape	BWB0969
	Other	

[illegible]

Site:		Wythenshawe Sports Hub
Client:		Etec
Job No.:		244550
Date:		21/03/2025
Start / End Time:		15:00/16:00
Engineer:		TF
Monitoring Equipment:	Gas Meter ID	12952
	PID ID	PGM7320
	Dip Tape	A
	Other	

BWB

Weather Conditions	Start	End
(Dry / Raining)	Dry	Dry
Wind Strength (m/s)	2.2	2.2
Wind Direction (from)	E	E
Temperature (°C)	11.0	11.0
Barometric Pressure (h Pa / mB)	998.0	998.0
App 12 Hour Pressure (h Pa / mB)	1005.0	
12 Hour Pressure Trend	Falling	
PID - Air		
PID - Calibration Gas		

[illegible]

Site:		Wythenshawe Sports Hub
Client:		Etec
Job No.:		244550
Date:		28/03/2025
Start / End Time:		15:00/16:00
Engineer:		TF
Monitoring Equipment:	Gas Meter ID	12952
	PID ID	PGM7320
	Dip Tape	A
	Other	

BWB
CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Dry	Dry
Wind Strength (m/s)	5.8	5.8
Wind Direction (from)	W	W
Temperature (°C)	11.0	11.0
Barometric Pressure (h Pa / mB)	1006.0	1006.0
App 12 Hour Pressure (h Pa / mB)	1017.0	
12 Hour Pressure Trend	Falling	
PID - Air		
PID - Calibration Gas		

[illegible]

Appendix 4: Soil Chemical Analysis Results

BWB Consulting Limited
Westminster House
11 Portland Street
Manchester
M1 3HU

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

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

e: thomas.flame@bwbconsulting.com
catherine.riley@bwbconsulting.com

Analytical Report Number : 25-011183

Project / Site name:	Wythenshawe Park	Samples received on:	05/03/2025
Your job number:	244550	Samples instructed on/ Analysis started on:	07/03/2025
Your order number:	10947	Analysis completed by:	15/03/2025
Report Issue Number:	1	Report issued on:	18/03/2025
Samples Analysed:	12 soil samples - 3 leachate samples		



Signed:

Arslaan Saleem
Customer Service Advisor
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 25-011183
Project / Site name: Wythenshawe Park
Your Order No: 10947

Lab Sample Number	473553	473554	473555	473556	473557
Sample Reference	DS01	DS01	DS02	DS03	DS03
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.15-0.25	0.80-0.85	0.60-0.70	0.25-0.35	0.50-0.60
Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	04/03/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	44.6	57.2	42.9
Moisture Content	%	0.01	NONE	13	11	8.7	5	7
Total mass of sample received	kg	0.1	NONE	0.8	0.4	0.5	0.6	0.7

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-	-	DKI	-
Analysis completed	N/A	N/A	N/A	-	-	-	13/03/2025	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.8	7.9	8.6	10.7	10.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex 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
Total Sulphate as SO ₄	mg/kg	50	MCERTS	180	56	93	1100	620
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	0.062
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	63	43	69	450	400
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0316	0.0216	0.0344	0.224	0.199
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	31.6	21.6	34.4	224	199
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	8.1
Total Sulphur	mg/kg	50	MCERTS	190	150	120	640	360
Total Sulphur	%	0.005	MCERTS	-	-	-	-	0.036
Organic Matter (automated)	%	0.1	MCERTS	2	0.4	1.2	0.5	0.6
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	< 2.0

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Analytical Report Number: 25-011183
Project / Site name: Wythenshawe Park
Your Order No: 10947

Lab Sample Number	473553	473554	473555	473556	473557
Sample Reference	DS01	DS01	DS02	DS03	DS03
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.15-0.25	0.80-0.85	0.60-0.70	0.25-0.35	0.50-0.60
Date Sampled	04/03/2025	04/03/2025	04/03/2025	04/03/2025	04/03/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6	5.2	5.1	3.4	4.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	57	53	66	64	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.49	0.46	0.52	0.27	0.36
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	< 0.2	0.4	0.6	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.4	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	18	13	8.9	9.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	8.3	12	7.8	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	6.6	14	17	25
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	12	13	13	8.9	8.7
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	15	25	16	11	11
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	21	24	31	31

Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	2.8
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	5.5

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	-	-	-	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	-	-	-	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	-	-	-	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-	-	1.2	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-	-	4	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	9.6	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-	-	62	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-	-	77	-

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	-	-	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	-	-	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	-	-	-	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	< 10	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-	-	54	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-	-	54	-

Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	180	120

Analytical Report Number: 25-011183
 Project / Site name: Wythenshawe Park
 Your Order No: 10947

Lab Sample Number				473553	473554	473555	473556	473557
Sample Reference				DS01	DS01	DS02	DS03	DS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.15-0.25	0.80-0.85	0.60-0.70	0.25-0.35	0.50-0.60
Date Sampled				04/03/2025	04/03/2025	04/03/2025	04/03/2025	04/03/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-	-	< 5.0	-
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	8	MCERTS	-	-	-	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	-	-	-	< 5.0	-

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

Analytical Report Number: 25-011183
Project / Site name: Wythenshawe Park
Your Order No: 10947

Lab Sample Number	473558	473559	473560	473561	473562
Sample Reference	DS04	DS05	DS06	DS07	DS09
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.35-0.45	0.40-0.50	0.10-0.20	0.30-0.40	0.40-0.50
Date Sampled	04/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13	16	9.9	13
Total mass of sample received	kg	0.1	NONE	0.7	0.7	0.8	0.6	0.7

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	-	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DKI	DKI	-	-	DKI
Analysis completed	N/A	N/A	N/A	13/03/2025	13/03/2025	-	-	13/03/2025

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.5	4.3	7	7.8	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	2.3	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	2.3	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	130	8600	270	280	270
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	0.027
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	120	4600	46	42	14
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0613	2.29	0.0231	0.0208	0.00683
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	61.3	2290	23.1	20.8	6.83
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	0.9
Total Sulphur	mg/kg	50	MCERTS	120	4900	320	240	220
Total Sulphur	%	0.005	MCERTS	-	-	-	-	0.022
Organic Matter (automated)	%	0.1	MCERTS	1.3	2.3	4	2.3	2.3
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	< 2.0

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	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.12	0.07	0.07	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.24	0.13	0.14	0.06
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.21	0.14	0.14	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.11	0.07	0.08	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.15	0.1	0.08	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.15	0.11	0.08	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.08	0.08	0.07	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.11	0.07	< 0.05	< 0.05

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Lab Sample Number	473558	473559	473560	473561	473562
Sample Reference	DS04	DS05	DS06	DS07	DS09
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.35-0.45	0.40-0.50	0.10-0.20	0.30-0.40	0.40-0.50
Date Sampled	04/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	1.17	0.81	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	1.2	8.5	9.6	9.1	9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	13	82	68	63	85
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.08	0.44	0.66	0.64	0.96
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.5	0.5	0.2	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	3.2	16	16	23	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6.2	92	22	17	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	4.6	53	54	55	33
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	1.6	13	13	17	19
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	2.9	18	20	25	28
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	3.5	59	48	45	41

Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	15
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	30

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	-	-	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	-	-	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	-	-	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	3.4	-	-	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	-	-	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	27	-	-	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	30	-	-	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	-	-	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	-	-	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	-	-	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	-	-	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	-	-	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	-	-	< 10

Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	46	< 10	14	< 10

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Lab Sample Number				473558	473559	473560	473561	473562
Sample Reference				DS04	DS05	DS06	DS07	DS09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.35-0.45	0.40-0.50	0.10-0.20	0.30-0.40	0.40-0.50
Date Sampled				04/03/2025	05/03/2025	05/03/2025	05/03/2025	05/03/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	-	-	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0

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

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 Project / Site name: Wythenshawe Park
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Lab Sample Number				473563	473564
Sample Reference				DS10	DS11
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.10-0.20	0.30-0.40
Date Sampled				05/03/2025	05/03/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	11
Total mass of sample received	kg	0.1	NONE	0.7	0.7

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-
Analysis completed	N/A	N/A	N/A	-	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.3	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	380	190
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	10	14
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.00518	0.00673
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	5.18	6.73
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-
Total Sulphur	mg/kg	50	MCERTS	280	180
Total Sulphur	%	0.005	MCERTS	-	-
Organic Matter (automated)	%	0.1	MCERTS	3	2.3
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.11	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.24	0.08
Pyrene	mg/kg	0.05	MCERTS	0.25	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.13	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.15	0.06
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.14	0.07
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.07	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.12	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.09	< 0.05

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Lab Sample Number	473563	473564
Sample Reference	DS10	DS11
Sample Number	None Supplied	None Supplied
Water Matrix	N/A	N/A
Depth (m)	0.10-0.20	0.30-0.40
Date Sampled	05/03/2025	05/03/2025
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.37	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	7.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	69	51
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.68	0.54
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	59	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	15
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51	33

Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	-

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	-	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	-	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	-	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-	-

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	-	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	-	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	-	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-	-

Petroleum Range Organics (EC6 - EC10) HS_1D_TOTAL	mg/kg	1	ISO 17025	< 1.0	< 1.0
TPH (EC10 - EC40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	34

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Lab Sample Number				473563	473564
Sample Reference				DS10	DS11
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.10-0.20	0.30-0.40
Date Sampled				05/03/2025	05/03/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-
Benzene	µg/kg	5	MCERTS	-	-
Toluene	µg/kg	5	MCERTS	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-
p & m-Xylene	µg/kg	8	MCERTS	-	-
o-Xylene	µg/kg	5	MCERTS	-	-

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

Analytical Report Number: 25-011183
Project / Site name: Wythenshawe Park

Your Order No: 10947

Lab Sample Number	473556	473558	473562
Sample Reference	DS03	DS04	DS09
Sample Number	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A
Depth (m)	0.25-0.35	0.35-0.45	0.40-0.50
Date Sampled	04/03/2025	04/03/2025	05/03/2025
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	11.5	7.8	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO ₄	mg/l	0.045	ISO 17025	19.1	1.95	2.72

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.4	2
Barium (dissolved)	µg/l	0.05	ISO 17025	37	9	24
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	< 10	23	34
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	37	2.1	5.5
Copper (dissolved)	µg/l	0.7	ISO 17025	17	25	24
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	2.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.3	2.4	2.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	4	3	6.5
Zinc (dissolved)	µg/l	0.4	ISO 17025	13	15	34

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

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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 *
473553	DS01	None Supplied	0.15-0.25	Brown sand with gravel and vegetation
473554	DS01	None Supplied	0.80-0.85	Brown sand with gravel
473555	DS02	None Supplied	0.60-0.70	Brown sand with gravel and stones
473556	DS03	None Supplied	0.25-0.35	Brown sand with gravel and stones
473557	DS03	None Supplied	0.50-0.60	Brown sand with gravel and stones
473558	DS04	None Supplied	0.35-0.45	Brown sand with gravel
473559	DS05	None Supplied	0.40-0.50	Brown sandy clay with gravel
473560	DS06	None Supplied	0.10-0.20	Brown loam and clay with gravel and vegetation
473561	DS07	None Supplied	0.30-0.40	Brown loam and sand with gravel and vegetation
473562	DS09	None Supplied	0.40-0.50	Brown clay with gravel
473563	DS10	None Supplied	0.10-0.20	Brown sand with gravel and vegetation
473564	DS11	None Supplied	0.30-0.40	Brown sand with gravel

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
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.	L019B	D	NONE
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	L038B	D	MCERTS
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	L038B	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
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	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE

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Project / Site name: Wythenshawe Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	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	L080-PL	W	MCERTS
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	L080-PL	W	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Total petroleum hydrocarbons by HS-GC-MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC-MS	In-house method	L129-PL	W	ISO 17025
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
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

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 30°C.

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 25-011188

Project / Site name:	Wythenshawe Park	Samples received on:	05/03/2025
Your job number:	244550	Samples instructed on/ Analysis started on:	07/03/2025
Your order number:	10947	Analysis completed by:	17/03/2025
Report Issue Number:	1	Report issued on:	17/03/2025
Samples Analysed:	2 10:1 WAC samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 25-011188
Project / Site name: Wythenshawe Park

Lab Sample Number				473574	473575
Sample Reference				DS01	DS05
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.15-0.25	0.40-0.50
Date Sampled				04/03/2025	05/03/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13
Total mass of sample received	kg	0.1	NONE	0.8	0.7

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	8.3	3.9
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.1	1.3
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.8	3.1
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	6.6	-75

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.12
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.07	0.24
Pyrene	mg/kg	0.05	MCERTS	0.07	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.11
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.15
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.15
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.08
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.11
Coronene	mg/kg	0.05	NONE	< 0.05	0.79

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	1.96
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Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) <small>EH_CU_ID_AL</small>	mg/kg	10	NONE	< 10	41
--	-------	----	------	------	----

VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

Total BTEX	µg/kg	10	MCERTS	< 10	< 10
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Analytical Report Number: 25-011188
Project / Site name: Wythenshawe Park

Lab Sample Number				473574	473575
Sample Reference				DS01	DS05
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.15-0.25	0.40-0.50
Date Sampled				04/03/2025	05/03/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Waste Acceptance Criteria Analytical Results							
Report No:	25-011188						
					Client: BWBCONSULT		
Location	Wythenshawe Park						
Lab Reference (Sample Number)	473574				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	04/03/2025				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	DS01						
Depth (m)	0.15-0.25						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	2.8				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) <small>EH, ID, CU, AL</small>	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	8.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.6				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)							
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.0151			0.151	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0010			0.010	0.5	10	70
Copper *	0.0055			0.055	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00131			0.0131	0.5	10	30
Nickel *	0.00073			0.0073	0.4	10	40
Lead *	0.0026			0.026	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0031			0.031	4	50	200
Chloride *	0.90			9.0	800	15000	25000
Fluoride*	0.57			5.7	10	150	500
Sulphate *	1.9			19	1000	20000	50000
TDS*	50			500	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.38			73.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.8						
Dry Matter (%)	87						
Moisture (%)	13						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = UKAS accredited (liquid eluate analysis only)							
** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Where colour coding is used on this report, this is for guidance purposes only. This does not constitute a statement of conformity of pass or fail.

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.



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Waste Acceptance Criteria Analytical Results							
Report No:	25-011188						
				Client: BWBCONSULT			
Location	Wythenshawe Park						
Lab Reference (Sample Number)	473575			Landfill Waste Acceptance Criteria			
Sampling Date	05/03/2025			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	DS05						
Depth (m)	0.40-0.50						
Solid Waste Analysis							
TOC (%)**	1.3			3%	5%	6%	
Loss on Ignition (%) **	3.1			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007			1	--	--	
Mineral Oil (mg/kg) <small>EH, LD, CU, AL</small>	41			500	--	--	
Total PAH (WAC-17) (mg/kg)	1.96			100	--	--	
pH (units)**	3.9			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	-75			--	To be evaluated	To be evaluated	
Eluate Analysis	10:1		10:1	Limit values for compliance leaching test			
	mg/l			mg/kg			
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)				using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.00816		0.0816	0.5	2	25	
Barium *	0.0334		0.334	20	100	300	
Cadmium *	< 0.000100		< 0.00100	0.04	1	5	
Chromium *	< 0.00040		< 0.0040	0.5	10	70	
Copper *	0.0023		0.023	2	50	100	
Mercury *	< 0.000500		< 0.00500	0.01	0.2	2	
Molybdenum *	0.000701		0.00701	0.5	10	30	
Nickel *	0.0061		0.061	0.4	10	40	
Lead *	< 0.0010		< 0.010	0.5	10	50	
Antimony *	< 0.0017		< 0.017	0.06	0.7	5	
Selenium *	< 0.0040		< 0.040	0.1	0.5	7	
Zinc *	0.032		0.32	4	50	200	
Chloride *	1.2		12	800	15000	25000	
Fluoride*	0.32		3.2	10	150	500	
Sulphate *	120		1200	1000	20000	50000	
TDS*	160		1600	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	1	-	-	
DOC	5.92		59.2	500	800	1000	
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.7						
Dry Matter (%)	87						
Moisture (%)	13						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation							
** = UKAS accredited (liquid eluate analysis only)							
** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Where colour coding is used on this report, this is for guidance purposes only. This does not constitute a statement of conformity of pass or fail.

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 : 25-011188
Project / Site name: Wythenshawe Park

* 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 *
473574	DS01	None Supplied	0.15-0.25	Brown sand with gravel and vegetation
473575	DS05	None Supplied	0.40-0.50	Brown sandy clay with gravel

Analytical Report Number : 25-011188
Project / Site name: Wythenshawe Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
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.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025

Analytical Report Number : 25-011188
Project / Site name: Wythenshawe Park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

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 30°C.

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Appendix 5: Geotechnical Laboratory Testing Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

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Northampton NN4 7EB



Environmental Science

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Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

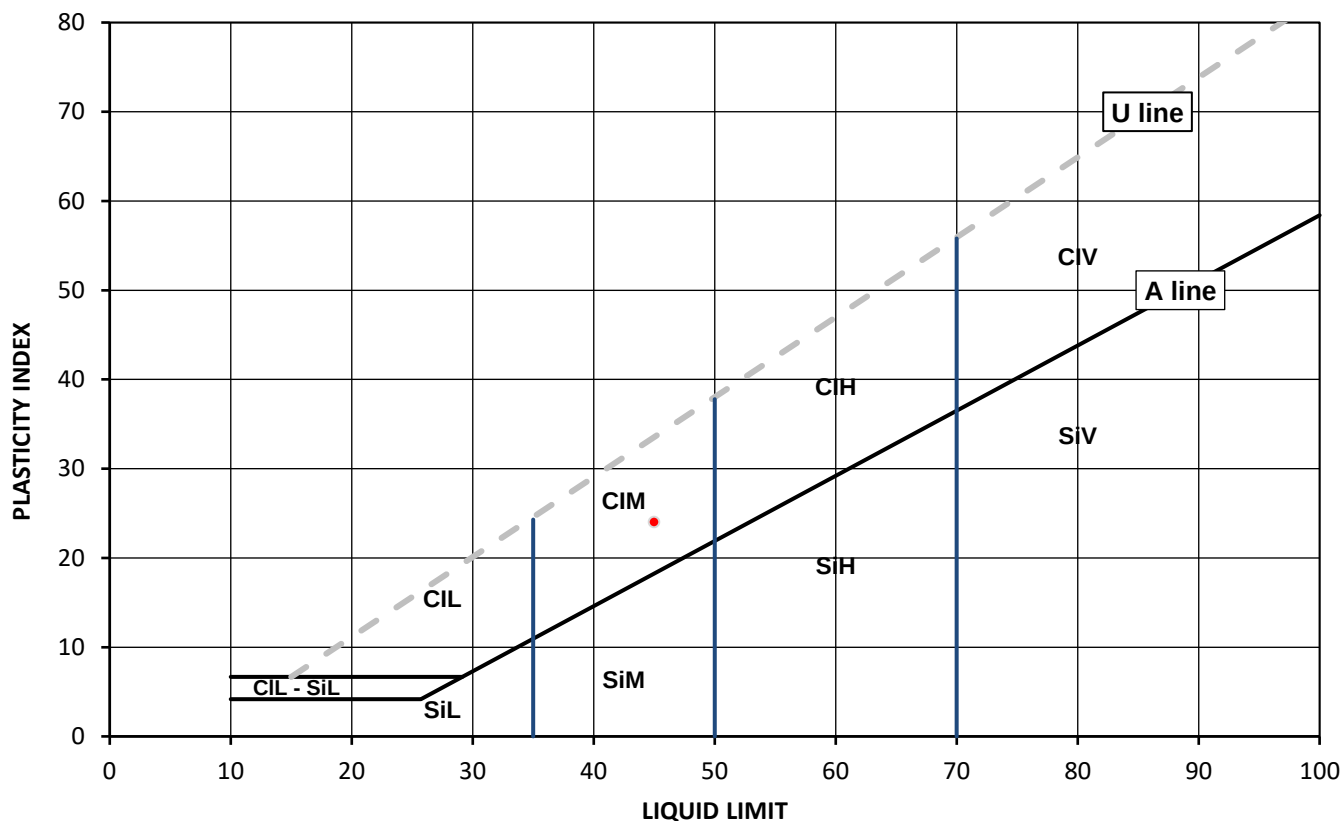
Test Results:

Laboratory Reference: 473587
Hole No.: DS01
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 1.90
Depth Base [m]: 2.00
Sample Type: D

Sample Preparation: Tested in natural condition; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
22.1	45	21	24	0.04	0.96	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		50 to 70
		exceeding 70
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

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Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

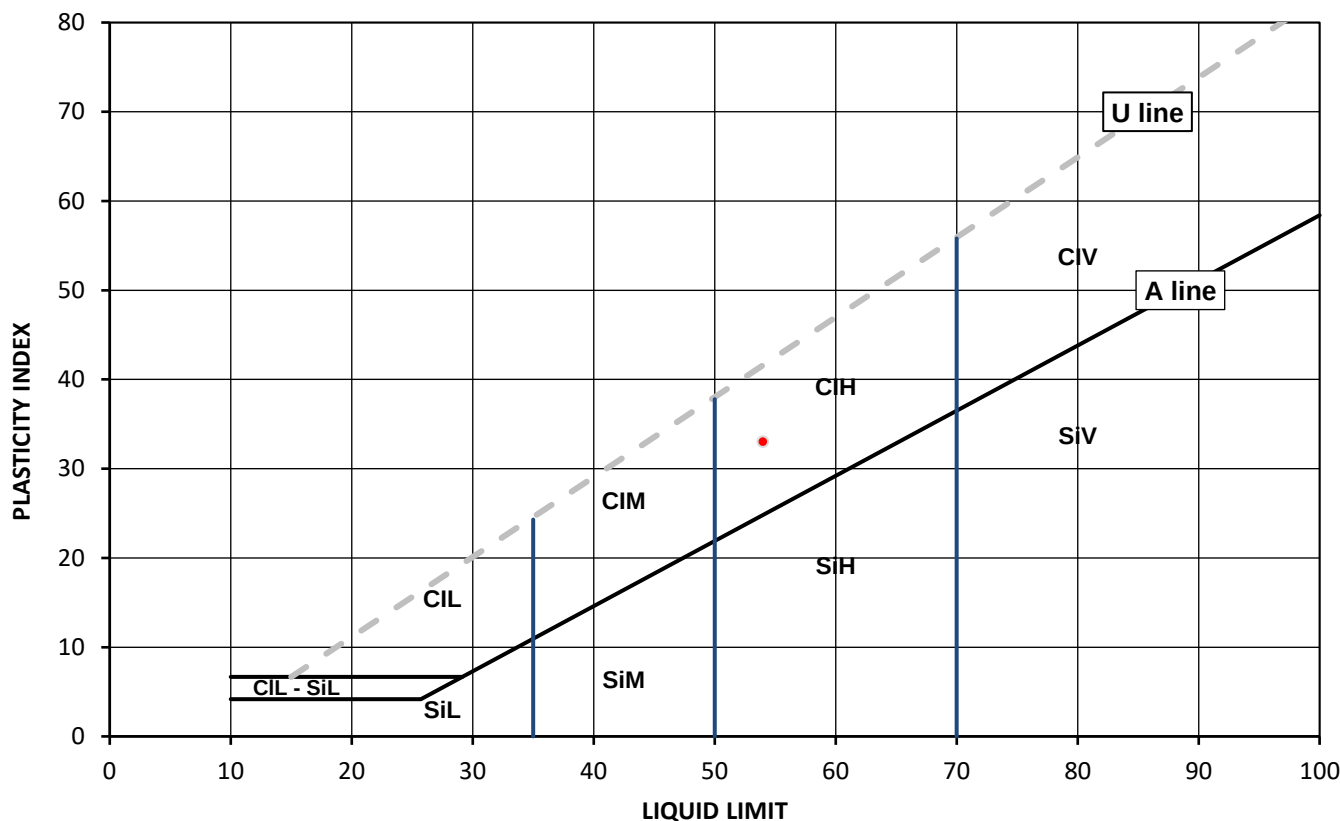
Test Results:

Laboratory Reference: 473588
Hole No.: DS02
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 2.80
Depth Base [m]: 2.90
Sample Type: D

Sample Preparation: Tested in natural condition; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
25.4	54	21	33	0.12	0.88	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

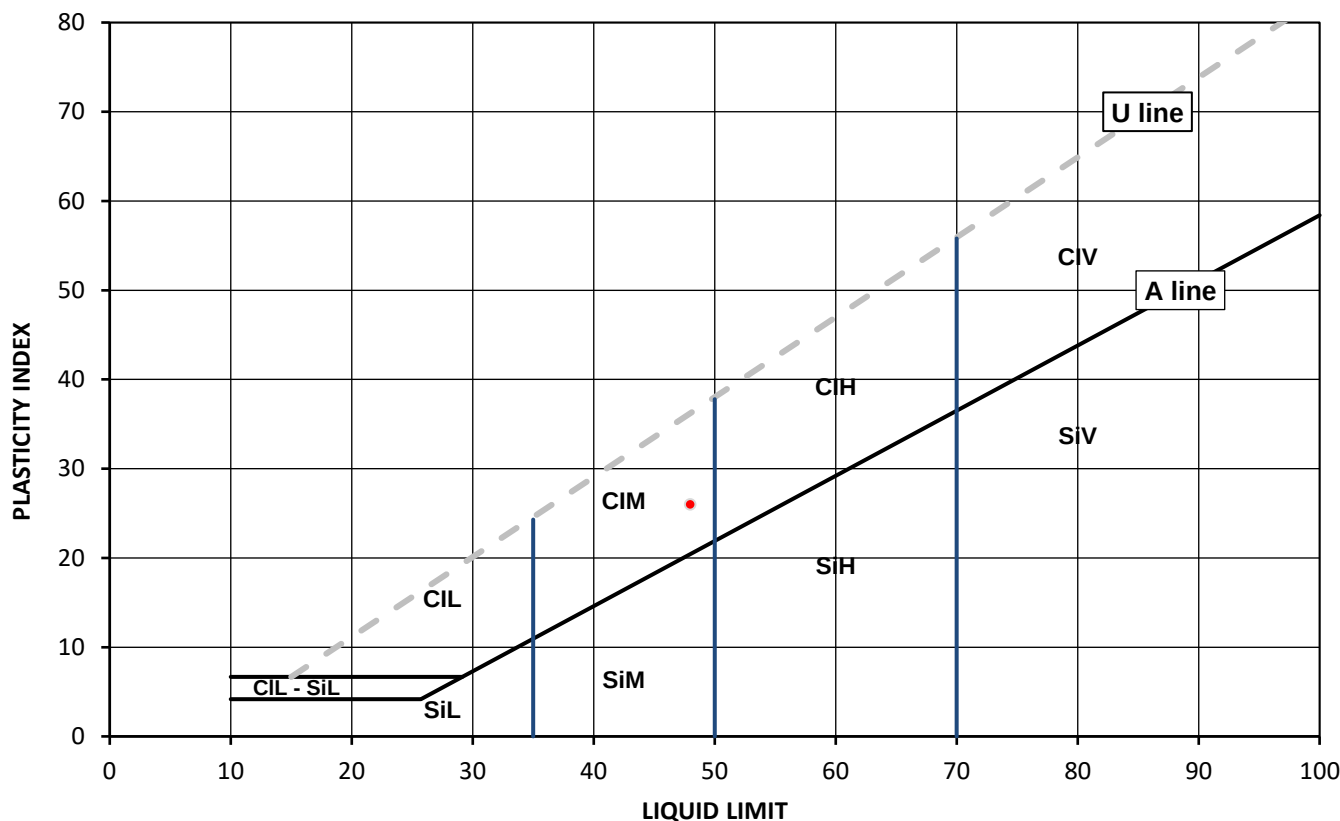
Test Results:

Laboratory Reference: 473592
Hole No.: DS05
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 0.80
Depth Base [m]: 0.90
Sample Type: D

Sample Preparation: Tested in natural condition; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
24.3	48	22	26	0.08	0.92	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

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Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

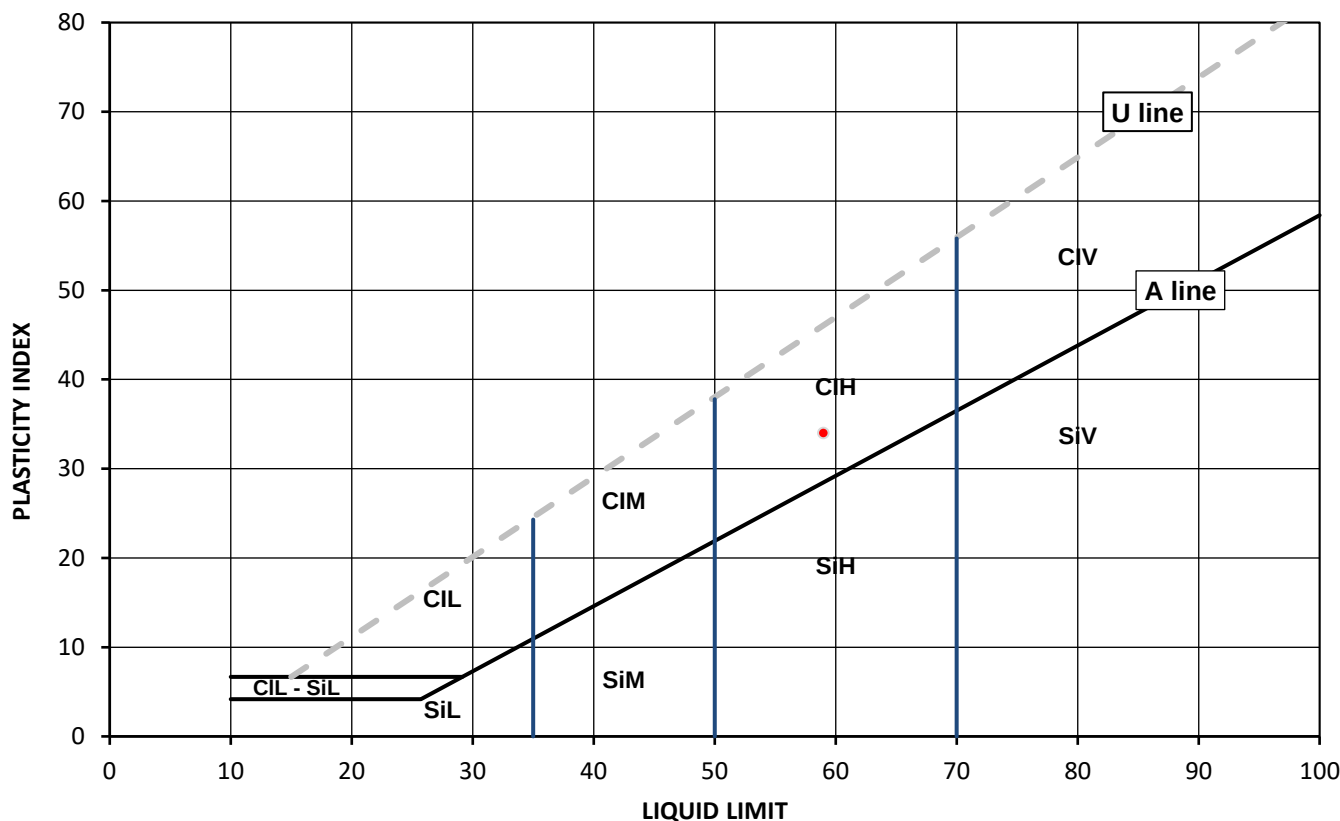
Test Results:

Laboratory Reference: 473597
Hole No.: DS09
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 0.80
Depth Base [m]: 0.90
Sample Type: D

Sample Preparation: Tested in natural condition; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
38.2	59	25	34	0.38	0.62	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

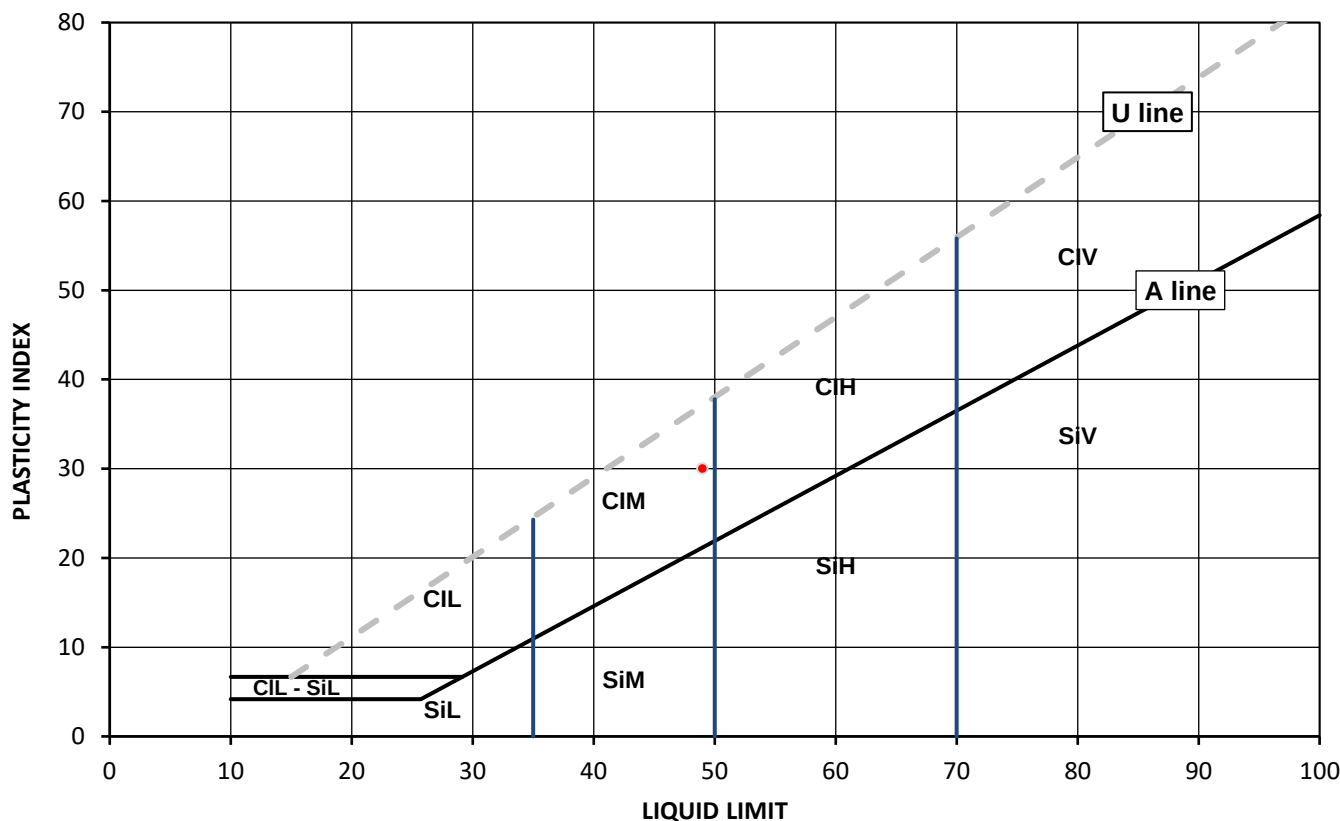
Test Results:

Laboratory Reference: 473598
Hole No.: DS09
Sample Reference: Not Given
Sample Description: Brown slightly gravelly slightly sandy CLAY

Depth Top [m]: 1.45
Depth Base [m]: 1.60
Sample Type: D

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
22.9	49	19	30	0.13	0.87	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks:

Signed:

Monika Siewior

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Reporting Specialist
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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley

Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt
Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Client Reference: 244550

Job Number: 25-011191-1

Date Sampled: Not Given

Date Received: 05/03/2025

Date Tested: 13/03/2025

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit							Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD
			m	m														
473587	DS01	Not Given	1.90	2.00	D	Brown slightly sandy CLAY	Atterberg 4 Point	22.1	100	45	-	21	24	80g/30 deg	N / I			
473588	DS02	Not Given	2.80	2.90	D	Brown slightly sandy CLAY	Atterberg 4 Point	25.4	100	54	-	21	33	80g/30 deg	N / I			
473589	DS03	Not Given	1.50	1.60	D	Brown CLAY		25.2										
473591	DS04	Not Given	1.70	1.80	D	Brown CLAY		22.3										
473592	DS05	Not Given	0.80	0.90	D	Brown slightly sandy CLAY	Atterberg 4 Point	24.3	100	48	-	22	26	80g/30 deg	N / I			
473594	DS07	Not Given	1.20	1.30	D	Brown CLAY		23.5										
473595	DS08	Not Given	0.80	Not Given	D	Brown CLAY		24.4										
473596	DS08	Not Given	1.60	1.70	D	Brown CLAY		20.2										
473597	DS09	Not Given	0.80	0.90	D	Brown slightly sandy CLAY	Atterberg 4 Point	38.2	100	59	-	25	34	80g/30 deg	N / I			
473598	DS09	Not Given	1.45	1.60	D	Brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	22.9	99	49	-	19	30	80g/30 deg	R / I			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

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Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
473587	DS01	Not Given	1.90	2.00	D	Brown slightly sandy CLAY		22.1											
473588	DS02	Not Given	2.80	2.90	D	Brown slightly sandy CLAY		25.4											
473589	DS03	Not Given	1.50	1.60	D	Brown CLAY		25.2											
473591	DS04	Not Given	1.70	1.80	D	Brown CLAY		22.3											
473592	DS05	Not Given	0.80	0.90	D	Brown slightly sandy CLAY		24.3											
473594	DS07	Not Given	1.20	1.30	D	Brown CLAY		23.5											
473595	DS08	Not Given	0.80	Not Given	D	Brown CLAY		24.4											
473596	DS08	Not Given	1.60	1.70	D	Brown CLAY		20.2											
473597	DS09	Not Given	0.80	0.90	D	Brown slightly sandy CLAY		38.2											
473598	DS09	Not Given	1.45	1.60	D	Brown slightly gravelly slightly sandy CLAY		22.9											

Comments:

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Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd



TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

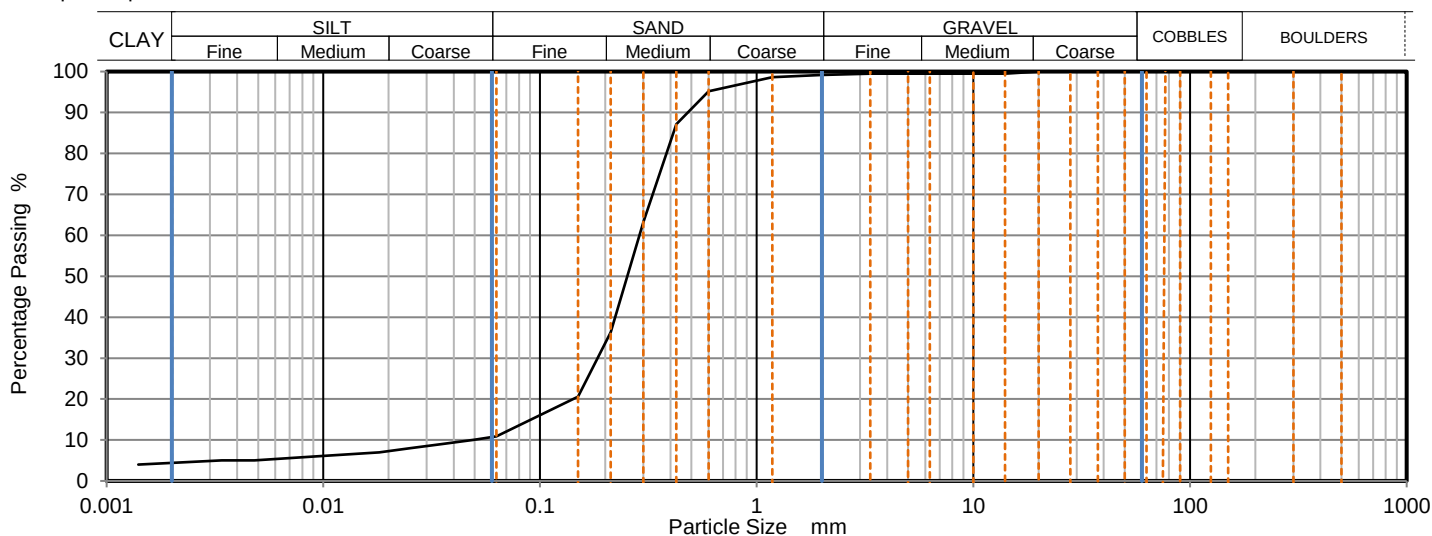
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 473586
Hole No.: DS01
Sample Reference: Not Given
Sample Description: Dark brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 107.9 °C and broken down by hand.

Depth Top [m]: 0.45
Depth Base [m]: 0.90
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0493	10
300	100	0.0353	9
150	100	0.0251	8
125	100	0.0181	7
90	100	0.0095	6
75	100	0.0048	5
63	100	0.0034	5
50	100	0.0014	4
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	95	Particle density (assumed) 2.65 Mg/m3	
0.425	87		
0.3	63		
0.212	36		
0.15	21		
0.063	11		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	88
Silt	7
Clay	4

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

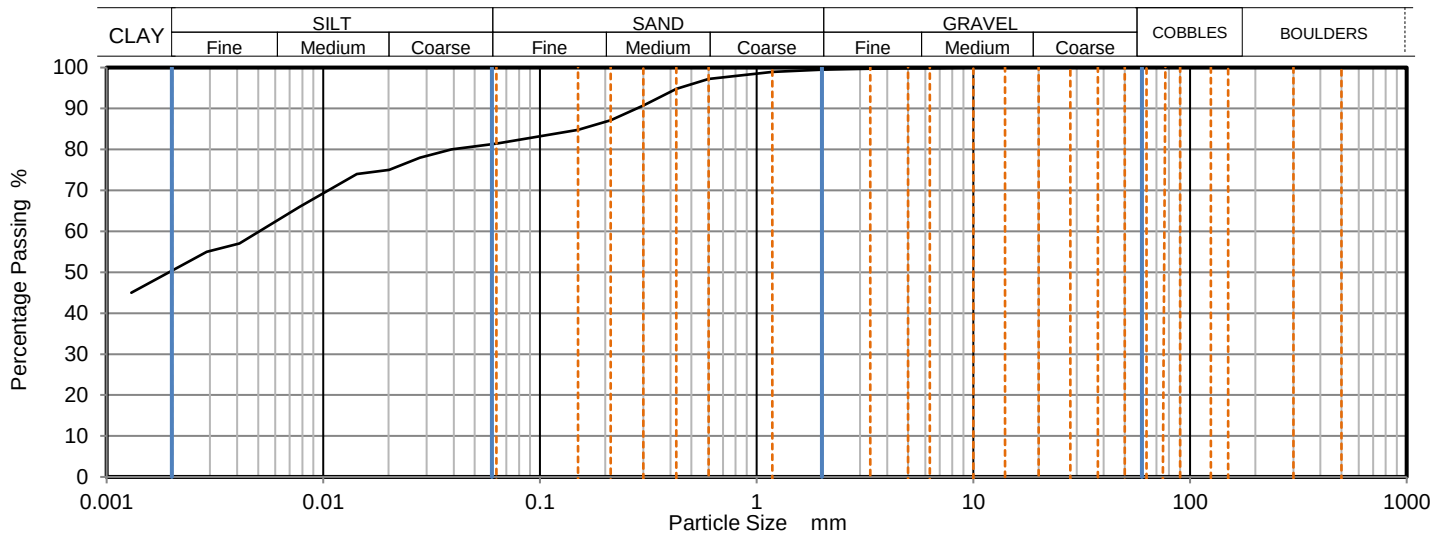
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 473590
Hole No.: DS04
Sample Reference: Not Given
Sample Description: Brown slightly sandy silty CLAY
Sample Preparation: Sample was quartered, oven dried at 107.9 °C and broken down by hand.

Depth Top [m]: 0.70
Depth Base [m]: 1.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0391	80
300	100	0.0279	78
150	100	0.0201	75
125	100	0.0143	74
90	100	0.0078	66
75	100	0.0041	57
63	100	0.0029	55
50	100	0.0013	45
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	97	Particle density (assumed) 2.65 Mg/m3	
0.425	95		
0.3	91		
0.212	87		
0.15	85		
0.063	81		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	18
Silt	31
Clay	50

Grading Analysis		
D100	mm	10
D60	mm	0.00512
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks:

Signed:

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Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

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Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
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Contact: Catherine Riley
Site Address: Wythenshawe Park

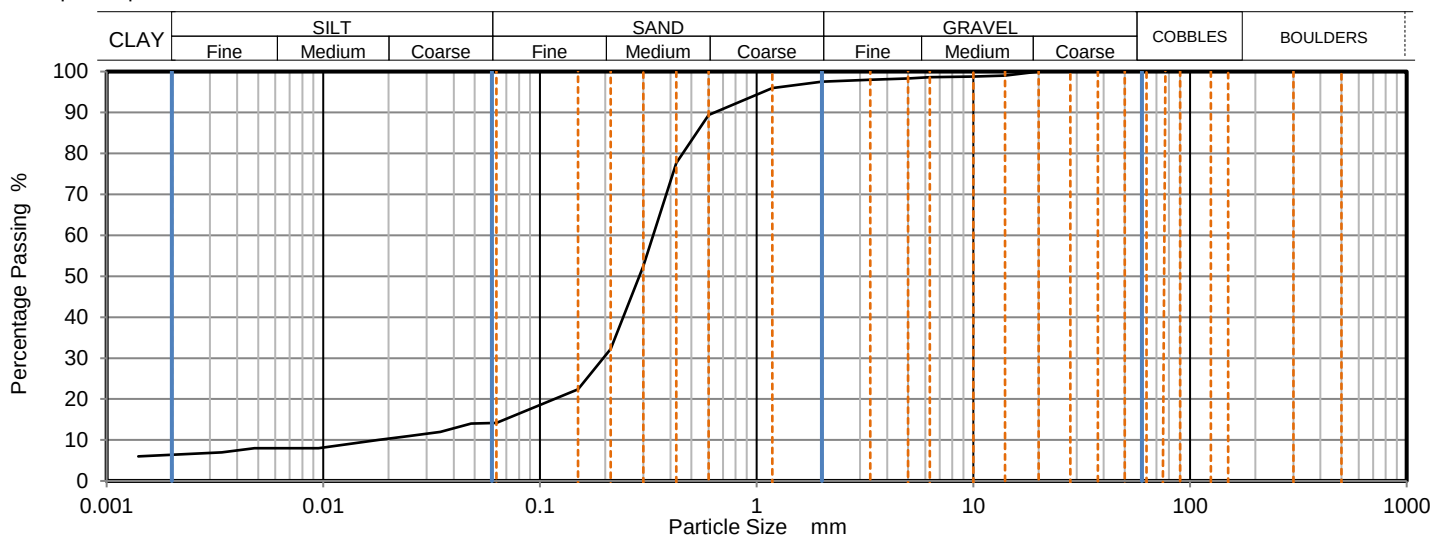
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 473593
Hole No.: DS07
Sample Reference: Not Given
Sample Description: Dark brown slightly gravelly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 107.9 °C and broken down by hand.

Depth Top [m]: 0.60
Depth Base [m]: 1.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0481	14
300	100	0.0347	12
150	100	0.0249	11
125	100	0.0180	10
90	100	0.0095	8
75	100	0.0048	8
63	100	0.0034	7
50	100	0.0014	6
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	98		
3.35	98		
2	98		
1.18	96		
0.6	89	Particle density (assumed) 2.65 Mg/m3	
0.425	78		
0.3	53		
0.212	32		
0.15	22		
0.063	14		

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	82
Silt	8
Clay	7

Grading Analysis	
D100	mm 20
D60	mm 0.333
D30	mm 0.196
D10	mm 0.0191
Uniformity Coefficient	17
Curvature Coefficient	6

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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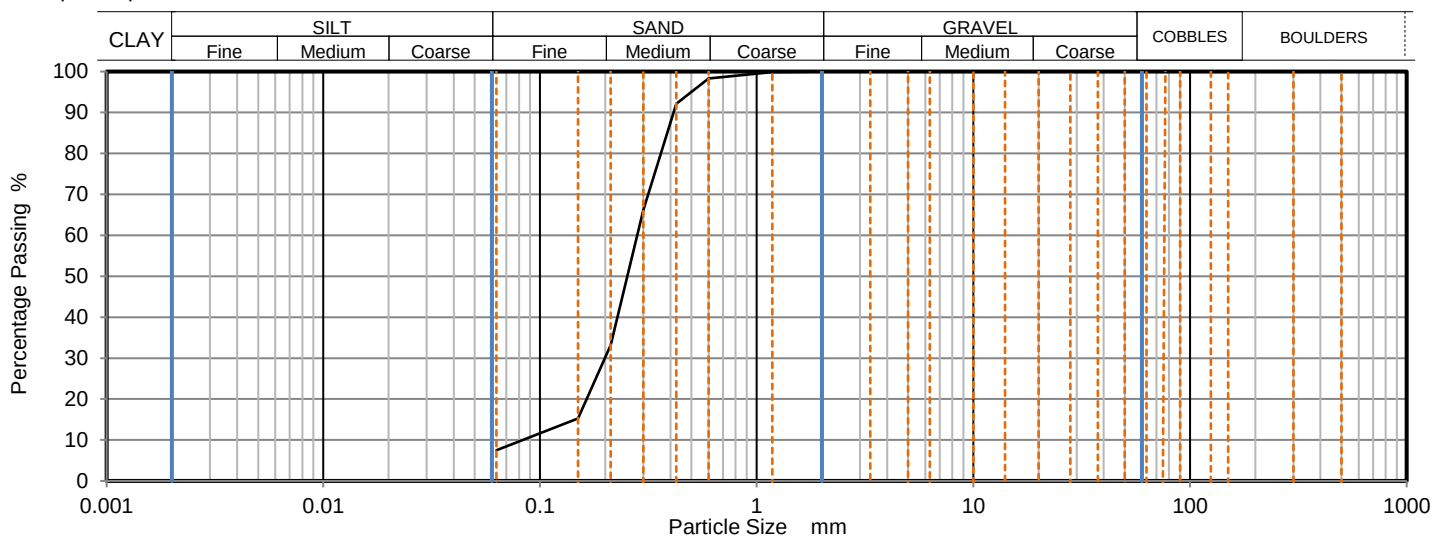
4041

TEST CERTIFICATE**DETERMINATION OF PARTICLE
SIZE DISTRIBUTION**Tested in Accordance with: BS EN ISO 17892-4:2016,
BS 1377-2:2022 cl. 10i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQContact: Catherine Riley
Site Address: Wythenshawe ParkClient Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 13/03/2025
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:Laboratory Reference: 473599
Hole No.: DS11
Sample Reference: Not Given
Sample Description: Dark brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 107.9 °C and broken down by hand.Depth Top [m]: 0.50
Depth Base [m]: 0.70
Sample Type: B

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98		
0.425	92		
0.3	66		
0.212	33		
0.15	15		
0.063	8		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	92
Fines <0.063 mm	8

Grading Analysis		
D100	mm	2
D60	mm	0.281
D30	mm	0.199
D10	mm	0.083
Uniformity Coefficient		3.4
Curvature Coefficient		1.7

Uniformity and Curvature Coefficient calculated in accordance
with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)**

Tested in Accordance with: BS 1377-2:2022 Cl. 15

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 18/03/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 473586
Hole No.: DS01
Sample Reference: Not Given
Sample Description: Dark brown clayey SAND

Depth Top [m]: 0.45
Depth Base [m]: 0.90
Sample Type: B

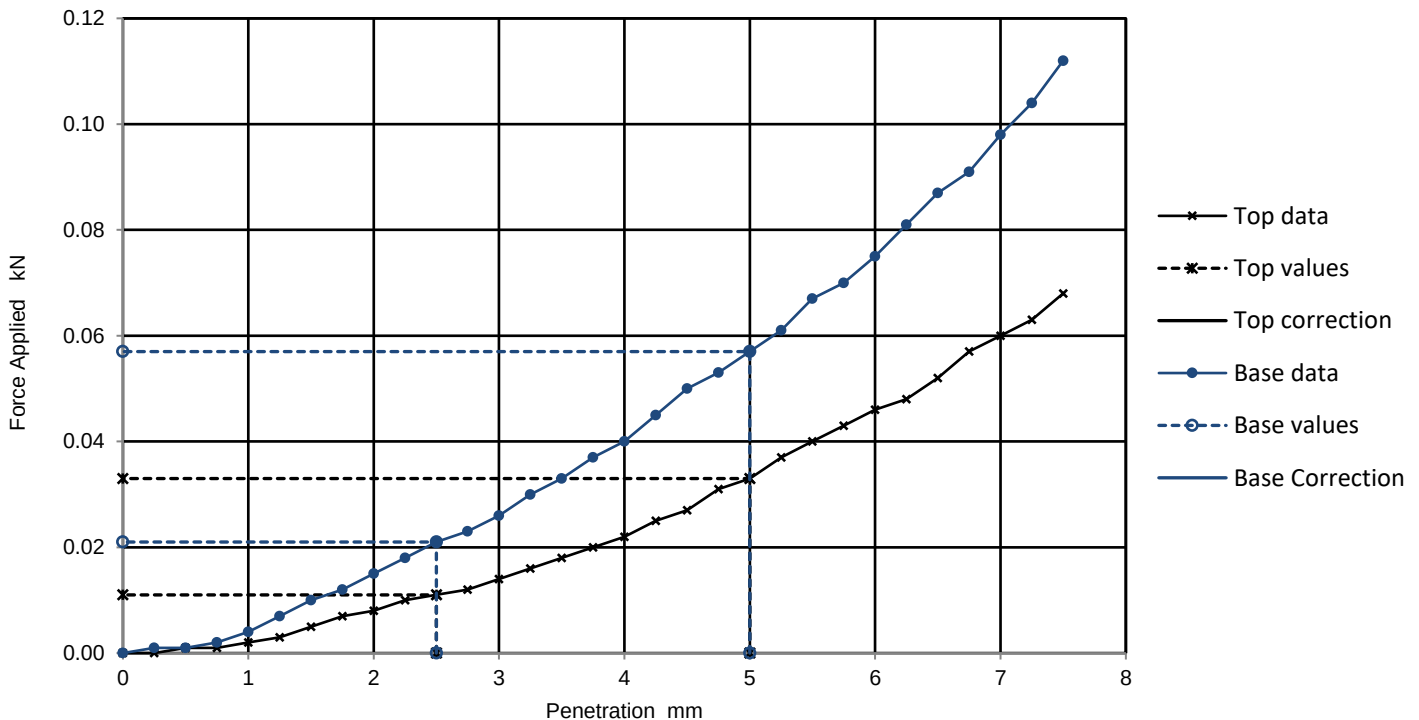
Specimen Preparation:

Condition Remoulded
Details Recompacted with specified standard effort using 2.5kg rammer

Soaking details Not soaked
Period of soaking days
Time to surface days
Amount of swell recorded mm
Dry density after soaking Mg/m³

Material retained on 20mm sieve removed 0 %

Initial Specimen details	Bulk density	1.99	Mg/m ³	Surcharge applied	8	kg
	Dry density	1.71	Mg/m ³		4.9	kPa
	Water content	16	%			

Force v Penetration Plots**Results**

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	0.083	0.17	0.17	
No	0.16	0.29	0.29	

Water Content %
16
17

Remarks:

Test/ Specimen
specific remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Page 1 of 1

Date Reported: 25/03/2025

GF 593.1



4041

TEST CERTIFICATE**DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)**

Tested in Accordance with: BS 1377-2:2022 Cl. 15

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

Client: BWB Consulting Limited
Client Address: 5th Floor, Waterfront House,
Nottingham, NG2 3DQ

Contact: Catherine Riley
Site Address: Wythenshawe Park

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 244550
Job Number: 25-011191-1
Date Sampled: Not Given
Date Received: 05/03/2025
Date Tested: 18/03/2025
Sampled By: Not Given

Test Results:

Laboratory Reference: 473599
Hole No.: DS11
Sample Reference: Not Given
Sample Description: Dark brown clayey SAND

Depth Top [m]: 0.50
Depth Base [m]: 0.70
Sample Type: B

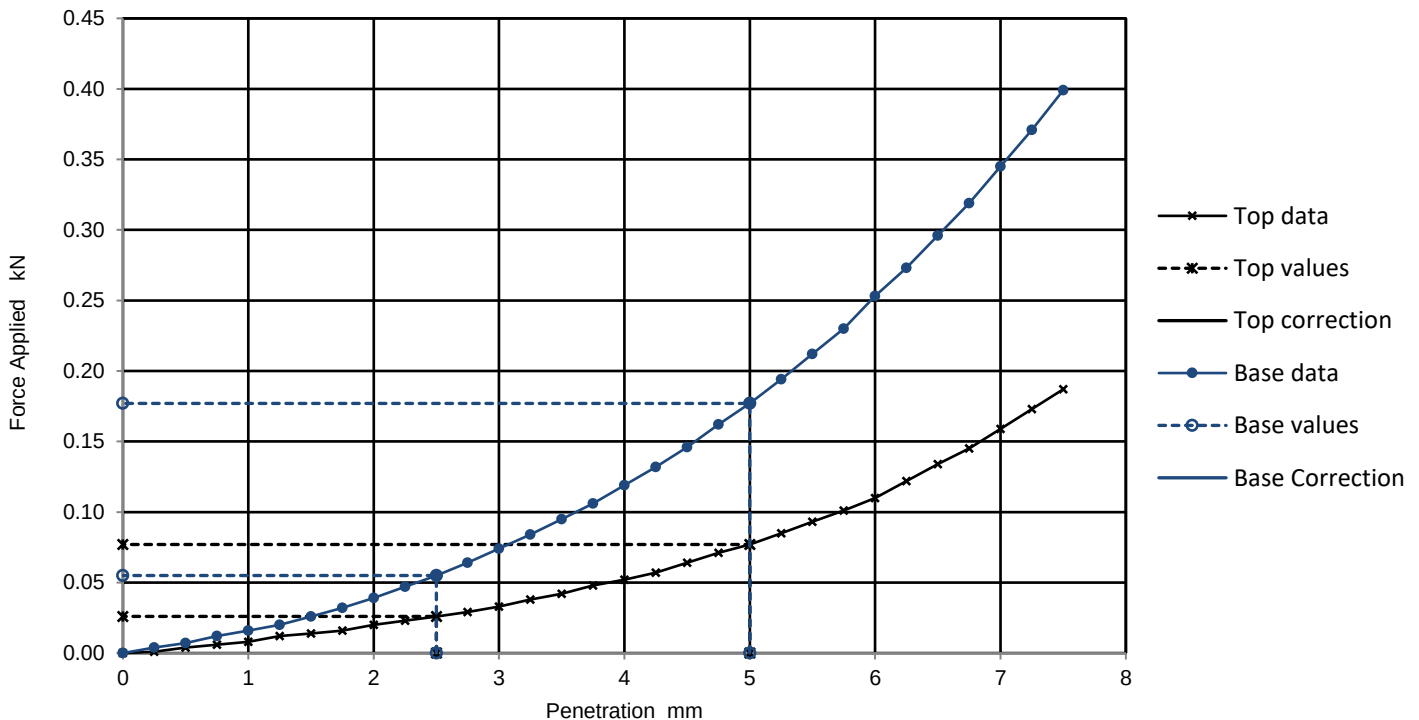
Specimen Preparation:

Condition Remoulded
Details Recompacted with specified standard effort using 2.5kg rammer

Soaking details Not soaked
Period of soaking days
Time to surface days
Amount of swell recorded mm
Dry density after soaking Mg/m3

Material retained on 20mm sieve removed 0 %

Initial Specimen details	Bulk density	1.95	Mg/m3	Surcharge applied	8	kg
	Dry density	1.67	Mg/m3		4.8	kPa
	Water content	17	%			

Force v Penetration Plots**Results**TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	0.2	0.39	0.39	
No	0.42	0.89	0.89	

Water Content %
17
17

Remarks:

Test/ Specimen
specific remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

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BWB Consulting Limited
5th Floor
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Nottingham
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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
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t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 25-011196

Project / Site name:	Wythenshawe Park	Samples received on:	05/03/2025
Your job number:	244550	Samples instructed on/ Analysis started on:	07/03/2025
Your order number:	10947	Analysis completed by:	13/03/2025
Report Issue Number:	1	Report issued on:	14/03/2025
Samples Analysed:	4 soil samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
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
air - once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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: 25-011196
Project / Site name: Wythenshawe Park

Lab Sample Number				473633	473634	473635	473636
Sample Reference				DS03	DS05	DS07	DS08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.80-0.90	0.80-0.90	0.60-1.00	1.60-1.70
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	18	14	14
Total mass of sample received	kg	0.1	NONE	0.5	0.6	0.5	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.8	6.8	8.1	8
Total Sulphate as SO ₄	%	0.005	MCERTS	0.007	0.081	0.009	0.018
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	19	370	5.5	50
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.39	187	2.74	24.9
Total Sulphur	mg/kg	50	MCERTS	110	360	< 50	100
Total Sulphur	%	0.005	MCERTS	0.011	0.036	< 0.005	0.01

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

Analytical Report Number : 25-011196
Project / Site name: Wythenshawe Park

* 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 *
473633	DS03	None Supplied	0.80-0.90	Brown clay and loam with gravel
473634	DS05	None Supplied	0.80-0.90	Brown clay and sand with gravel
473635	DS07	None Supplied	0.60-1.00	Brown clay and sand with gravel
473636	DS08	None Supplied	1.60-1.70	Brown clay and sand with gravel

Analytical Report Number : 25-011196
Project / Site name: Wythenshawe Park

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
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.	L019B	D	NONE
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
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	L038B	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

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 30°C.

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Analytical Report Number : 25-011196
Project / Site name: Wythenshawe Park

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.

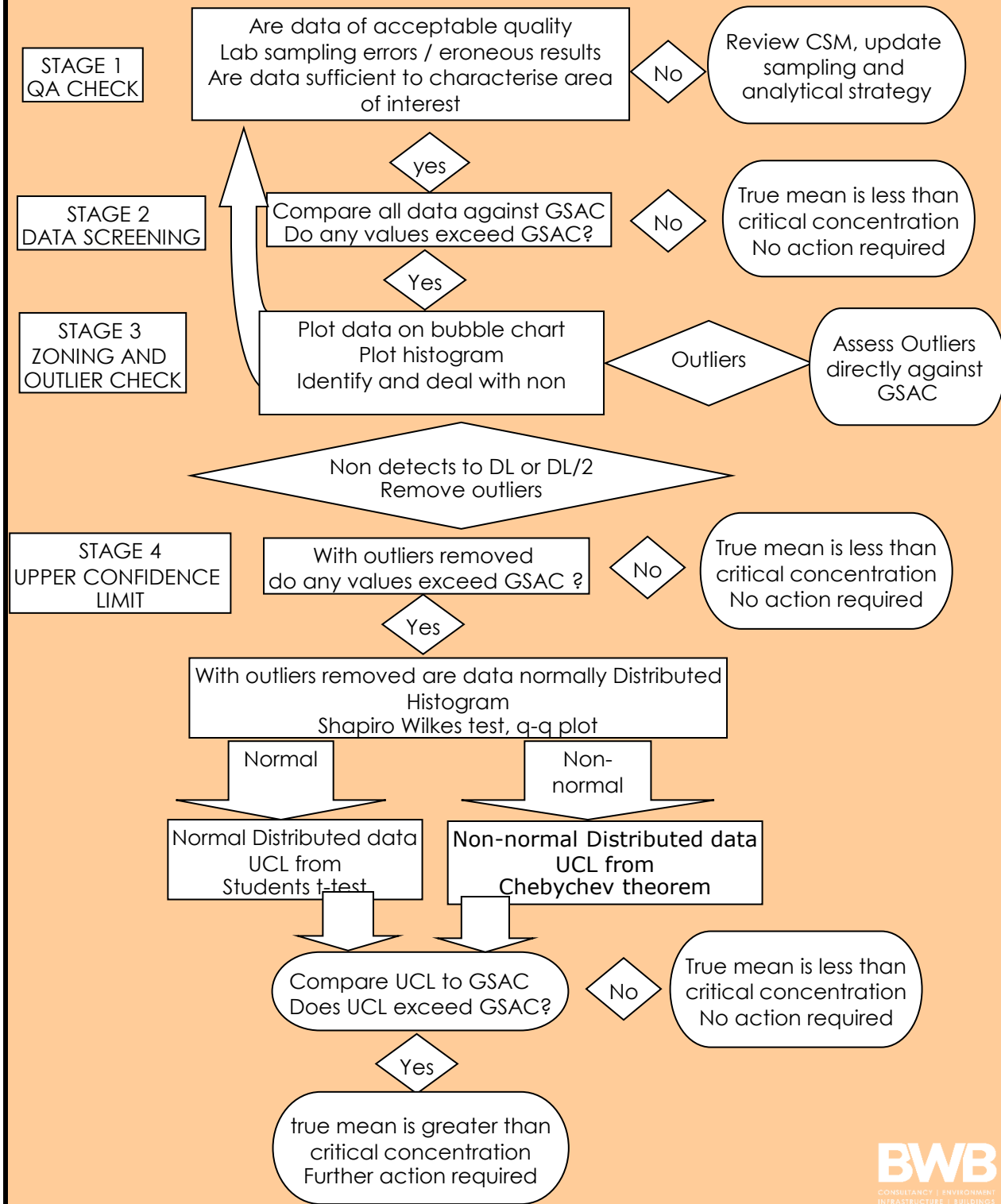
Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
DS03	N/A	S	473633	a	Moisture Content	L019B	a
DS03	N/A	S	473633	a	Sample preparation	L019B	a
DS03	N/A	S	473633	a	Soil Descriptions	L019B	a
DS03	N/A	S	473633	a	Stones content of soil	L019B	a
DS03	N/A	S	473633	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
DS03	N/A	S	473633	a	Total Sulphur in soil	L038B	a
DS03	N/A	S	473633	a	Total sulphate (as SO4 in soil)	L038B	a
DS03	N/A	S	473633	a	pH in soil (automated)	L099-PL	a
DS05	N/A	S	473634	a	Moisture Content	L019B	a
DS05	N/A	S	473634	a	Sample preparation	L019B	a
DS05	N/A	S	473634	a	Soil Descriptions	L019B	a
DS05	N/A	S	473634	a	Stones content of soil	L019B	a
DS05	N/A	S	473634	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
DS05	N/A	S	473634	a	Total Sulphur in soil	L038B	a
DS05	N/A	S	473634	a	Total sulphate (as SO4 in soil)	L038B	a
DS05	N/A	S	473634	a	pH in soil (automated)	L099-PL	a
DS07	N/A	S	473635	a	Moisture Content	L019B	a
DS07	N/A	S	473635	a	Sample preparation	L019B	a
DS07	N/A	S	473635	a	Soil Descriptions	L019B	a
DS07	N/A	S	473635	a	Stones content of soil	L019B	a
DS07	N/A	S	473635	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
DS07	N/A	S	473635	a	Total Sulphur in soil	L038B	a
DS07	N/A	S	473635	a	Total sulphate (as SO4 in soil)	L038B	a
DS07	N/A	S	473635	a	pH in soil (automated)	L099-PL	a
DS08	N/A	S	473636	a	Moisture Content	L019B	a
DS08	N/A	S	473636	a	Sample preparation	L019B	a
DS08	N/A	S	473636	a	Soil Descriptions	L019B	a
DS08	N/A	S	473636	a	Stones content of soil	L019B	a
DS08	N/A	S	473636	a	Sulphate, water soluble, in soil (16hr extraction)	L038B	a
DS08	N/A	S	473636	a	Total Sulphur in soil	L038B	a
DS08	N/A	S	473636	a	Total sulphate (as SO4 in soil)	L038B	a
DS08	N/A	S	473636	a	pH in soil (automated)	L099-PL	a

Appendix 6 : Derivation of GACs

STATISTICAL APPROACH FOR ASSESSING RISK TO HUMAN HEALTH FROM CONTAMINATED LAND 2008

CIEH/CLAIRE Guidance on Comparing Soil Contamination Data with a Critical Concentration May 2008



Appendix 7: CLEA Sheets

Human Health Generic QRA Worksheet

Job Name : Wythenshawe Sports Hub

Job No: 244550

Description: The proposed development includes the construction of a new two-storey pavilion to the east of the existing athletics track, the provision of new artificial grass pitches and 'MUGAs' to the south of the new building and alterations / extension of the car park.



GSAC Hierarchy

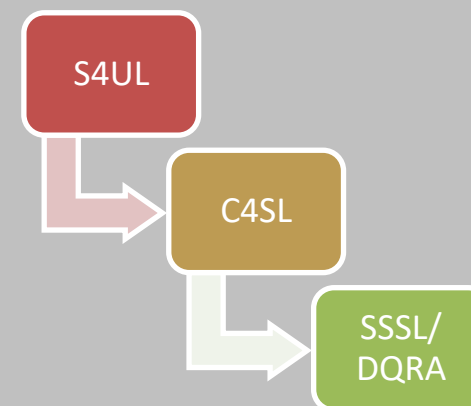
Define CSM – Is site represented by a standard land use?

Residential with / without homegrown produce

Commercial / Industrial

Public Open Space - Residential (S4UL/C4SL only)

Public Open Space - Park (S4UL/C4SL only)



GSAC Type (BWB, LQM S4UL, C4SL, Bespoke)

LQM_CIEH_S4UL

Key Receptor/CSM (Residential/Commercial/POS)

**S4UL Residential
without homegrown
produce**

Organic Matter % (If unknown use 1%)

1

Generic Assessment Criteria

S4UL Residential
without
homegrown
produce
mg/kg



Job Name : Wythenshawe Sports Hub
Job No: 244550

Source

Arsenic	4.00E+01	LQM_CIEH_S4UL
Barium	1.35E+03	LQM_CIEH_S4UL
Beryllium	1.70E+00	LQM_CIEH_S4UL
Boron	1.10E+04	LQM_CIEH_S4UL
Cadmium	8.50E+01	LQM_CIEH_S4UL
Chromium VI	6.00E+00	LQM_CIEH_S4UL
Chromium III	9.10E+02	LQM_CIEH_S4UL
Copper	7.10E+03	LQM_CIEH_S4UL
Lead	3.10E+02	DEFRA_C4SL
Inorganic Mercury	5.60E+01	LQM_CIEH_S4UL
Nickel	1.80E+02	LQM_CIEH_S4UL
Selenium	4.30E+02	LQM_CIEH_S4UL
Vanadium	1.20E+03	LQM_CIEH_S4UL
Zinc	4.00E+04	LQM_CIEH_S4UL
pH	<4.5 >9.5	BWB
Cyanide (free)	4.30E+01	BWB
Cyanide (Complex)	2.13E+02	LQM_CIEH_S4UL
Phenol	4.40E+02	LQM_CIEH_S4UL
Benzene	3.80E-01	LQM_CIEH_S4UL
Toluene	8.80E+02	LQM_CIEH_S4UL
Ethylbenzene	8.30E+01	LQM_CIEH_S4UL
Total Xylene	7.90E+01	LQM_CIEH_S4UL
TPH (EC5-6) aliphatic	4.20E+01	LQM_CIEH_S4UL
TPH (>EC6-8) aliphatic	1.00E+02	LQM_CIEH_S4UL
TPH (>EC8-10) aliphatic	2.70E+01	LQM_CIEH_S4UL
TPH (>EC10-12) aliphatic	1.30E+02	LQM_CIEH_S4UL
TPH (>EC12-16) aliphatic	1.10E+03	LQM_CIEH_S4UL
TPH (>EC16-21) aliphatic	6.50E+04	LQM_CIEH_S4UL
TPH (>EC21-35) aliphatic	6.50E+04	LQM_CIEH_S4UL
TPH (>EC35-44) aliphatic	6.50E+04	LQM_CIEH_S4UL
TPH (>EC6-7) aromatic (benzene)	3.70E+02	LQM_CIEH_S4UL
TPH (>EC7-8) aromatic (toluene)	8.60E+02	LQM_CIEH_S4UL
TPH (>EC8-10) aromatic	4.70E+01	LQM_CIEH_S4UL
TPH (>EC10-12) aromatic	2.50E+02	LQM_CIEH_S4UL
TPH (>EC12-16) aromatic	1.80E+03	LQM_CIEH_S4UL
TPH (>EC16-21) aromatic	1.90E+03	LQM_CIEH_S4UL
TPH (>EC21-35) aromatic	1.90E+03	LQM_CIEH_S4UL
TPH (>EC35-44) aromatic	1.90E+03	LQM_CIEH_S4UL
Total TPH	5.00E+02	LQM_CIEH_S4UL
Naphthalene	2.30E+00	LQM_CIEH_S4UL
Acenaphthylene	2.90E+03	LQM_CIEH_S4UL
Acenaphthene	3.00E+03	LQM_CIEH_S4UL
Fluorene	2.80E+03	LQM_CIEH_S4UL
Phenanthrene	1.30E+03	LQM_CIEH_S4UL
Anthracene	3.10E+04	LQM_CIEH_S4UL
Fluoranthene	1.50E+03	LQM_CIEH_S4UL
Pyrene	3.70E+03	LQM_CIEH_S4UL
Benzo(a)anthracene	1.10E+01	LQM_CIEH_S4UL
Chrysene	3.00E+01	LQM_CIEH_S4UL
Benzo(b)fluoranthene	3.90E+00	LQM_CIEH_S4UL
Benzo(k)fluoranthene	1.10E+02	LQM_CIEH_S4UL
Benzo(a)pyrene	3.20E+00	LQM_CIEH_S4UL
Indeno(123-cd)pyrene	4.50E+01	LQM_CIEH_S4UL
Dibenzo(ah)anthracene	3.10E-01	LQM_CIEH_S4UL
Benzo(g,h,i)perylene	3.60E+02	LQM_CIEH_S4UL

[illegible]

[illegible]

[illegible]

Appendix 8: Leachate Worksheets

*EQS Standard: Phenol and Benzene annual average of 300µg/l; Toluene 500µg/l for Freshwater, 400µg/l for Saltwater; 1,1,1-TCA 1,000µg/l.

Project Name:	Wythenshawe Sports Hub
Project Number:	244550
Assessment for:	Water Assessment
Laboratory:	I2
Receptor:	Drinking Water
Receptor Water Hardness:	<40 (No Data)



100 = Assessment Criteria Exceedance)
50 = M-BAT Bioavailability Assessment Required

									Location	DS03	DS04	DS09			
									Depth	0.250.35	0.350.45	0.400.50			
									Sampling Date	04/03/2025	04/03/2025	05/03/2025			
									Lab Ref	473556	473558	473562			
	Contaminant	Units	Detection Limit	Guideline Concentration	Source	Number of Samples	Min	Max	No of Exceedences						
Heavy Metals	Arsenic	µg/l	1	10.00	UK DWS	3	< 1	2.00	0	< 1.0	1.40	2.00			
	Barium	mg/l	0.05	1000.00	UK DWS	3	9.00	37.00	0	37.00	9.00	24.00			
	Beryllium	µg/l	0.2	0.2	No Standard	3	< 0.2	< 0.2	0	< 0.2	< 0.2	< 0.2			
	Boron	µg/l	10	1000.00	UK DWS	3	< 10	34.00	0	< 10	23.00	34.00			
	Cadmium	µg/l	0.08	5.00	UK DWS	3	< 0.08	< 0.08	0	< 0.08	< 0.08	< 0.08			
	Chromium III	µg/l	0.4	50.00	UK DWS	3	2.10	37.00	0	37.00	2.10	5.50			
	Copper	µg/l	0.7	2000.00	UK DWS	3	17.00	25.00	0	17.00	25.00	24.00			
	Lead	µg/l	1	10.00	UK DWS	3	< 1	2.10	0	< 1.0	< 1.0	2.10			
	Mercury	µg/l	0.5	1.00	UK DWS	3	< 0.5	< 0.5	0	< 0.5	< 0.5	< 0.5			
	Nickel	µg/l	0.3	20.00	UK DWS	3	1.30	2.60	0	1.30	2.40	2.60			
	Selenium	µg/l	4	10.00	UK DWS	3	< 4	< 4	0	< 4.0	< 4.0	< 4.0			
	Vanadium	mg/l	1.7	20.00	EQS Freshwater	3	3.00	6.50	0	4.00	3.00	6.50			
	Zinc	µg/l	0.4	5000.00	UK DWS	3	13.00	34.00	0	13.00	15.00	34.00			
Misc Inorganics/Organics	pH	pH	0.045	>6.5 - <9	UK DWS	3	7.10	11.50	1	11.50	7.80	7.10			
	Cyanide (Total)	µg/l	10	50.00	UK DWS	3	< 10	< 10	0	< 10	< 10	< 10			
	Sulphate as SO ₄	mg/l	0.045	250.00	UK DWS	3	1.95	19.10	0	19.10	1.95	2.72			
	Chloride	mg/l		250.00	EQS Freshwater	0	0.00	<	0						
	Phenol	µg/l		7.70	EQS Freshwater	0	0.00	<	0						
	Ammoniacal Nitrogen as N	µg/l		15.00	EQS Freshwater	0	0.00	<	0						
	Dissolved Organic Carbon	mg/l		#N/A	No Standard	0	0.00	<	0						

*EQS Standard: Phenol and Benzene annual average of 300µg/l; Toluene 500µg/l for Freshwater, 400µg/l for Saltwater; 1,1,1-TCA 1,000µg/l.

Project Name:	Wythenshawe Sports Hub
Project Number:	244550
Assessment for:	Water Assessment
Laboratory:	I2
Receptor:	Freshwater
Receptor Water Hardness:	<40 (No Data)



100 = Assessment Criteria Exceedance)
50 = M-BAT Bioavailability Assessment Required

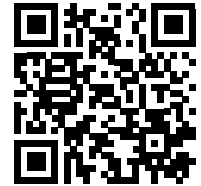
										Location	DS03	DS04	DS09			
										Depth	0.250.35	0.350.45	0.400.50			
										Sampling Date	04/03/2025	04/03/2025	05/03/2025			
										Lab Ref	473556	473558	473562			
	Contaminant	Units	Detection Limit	Guideline Concentration	Source	Number of Samples	Min	Max	No of Exceedences							
Heavy Metals	Arsenic	µg/l	1	50.00	EQS Freshwater	3	< 1	2.00	0	< 1.0	1.40	2.00				
	Barium	mg/l	0.05	1000.00	UK DWS	3	9.00	37.00	0	37.00	9.00	24.00				
	Beryllium	µg/l	0.2	0.2	No Standard	3	< 0.2	< 0.2	0	< 0.2	< 0.2	< 0.2				
	Boron	µg/l	10	2000.00	EQS Freshwater	3	< 10	34.00	0	< 10	23.00	34.00				
	Cadmium	µg/l	0.08	0.08	EQS Freshwater	3	< 0.08	< 0.08	0	< 0.08	< 0.08	< 0.08				
	Chromium III	µg/l	0.4	4.70	EQS Freshwater	3	2.10	37.00	2	37.00	2.10	5.50				
	Copper	µg/l	0.7	1.00	EQS Freshwater	3	17.00	25.00	3	17.00	25.00	24.00				
	Lead	µg/l	1	1.20	EQS Freshwater	3	< 1	2.10	1	< 1.0	< 1.0	2.10				
	Mercury	µg/l	0.5	0.07	EQS Freshwater	3	< 0.5	< 0.5	0	< 0.5	< 0.5	< 0.5				
	Nickel	µg/l	0.3	4.00	EQS Freshwater	3	1.30	2.60	0	1.30	2.40	2.60				
	Selenium	µg/l	4	10.00	UK DWS	3	< 4	< 4	0	< 4.0	< 4.0	< 4.0				
	Vanadium	mg/l	1.7	20.00	EQS Freshwater	3	3.00	6.50	0	4.00	3.00	6.50				
	Zinc	µg/l	0.4	10.90	EQS Freshwater	3	13.00	34.00	3	13.00	15.00	34.00				
Misc Inorganics/Organics	pH	pH	0.045	>6.5 - <9	UK DWS	0	0.00	< 0.045	0							
	Cyanide (Total)	µg/l	10	1.00	EQS Freshwater	3	< 10	< 10	0	< 10	< 10	< 10				
	Sulphate as SO ₄	mg/l	0.045	400.00	EQS Freshwater	3	1.95	19.10	0	19.10	1.95	2.72				
	Chloride	mg/l		250.00	EQS Freshwater	0	0.00	<	0							
	Phenol	µg/l		7.70	EQS Freshwater	0	0.00	<	0							
	Ammoniacal Nitrogen as N	µg/l		15.00	EQS Freshwater	0	0.00	<	0							
	Dissolved Organic Carbon	mg/l		#N/A	No Standard	0	0.00	<	0							

Appendix 9 : Hazwasteonline Assessment

Waste Classification Report

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

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



WR5KE-1UK8H-E7B26

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

Report is invalid if pages are removed.

Job name

244550 Wythenshawe Park

Description/Comments

Project

244550 Wythenshawe Park

Site

244550 Wythenshawe Park

Classified by

Name: **Richard Robinson**
Date: **24 Apr 2025 15:38 GMT**
Telephone: **0115 924 1100**
Company: **BWB Consulting Ltd**
Waterfront House, Station Street
Nottingham
NG2 3DQ

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

HazWasteOnline™ Certification:

Course
Hazardous Waste Classification
3 year Refresher overdue

Date

08 Dec 2016

Purpose of classification

2 - Material Characterisation

Address of the waste

Wythenshawe Park

Post Code n/a

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

Description of industry/producer giving rise to the waste

Construction

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

Construction

Description of the waste

Soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	DS01	N/A	Non Hazardous		3
2	DS01[2]	N/A	Non Hazardous		5
3	DS02	N/A	Non Hazardous		7
4	DS03	N/A	Non Hazardous		9
5	DS03[2]	N/A	Non Hazardous		12
6	DS04	N/A	Non Hazardous		15
7	DS05	N/A	Non Hazardous		18
8	DS06	N/A	Non Hazardous		21
9	DS07	N/A	Non Hazardous		23
10	DS09	N/A	Non Hazardous		26
11	DS10	N/A	Non Hazardous		29
12	DS11	N/A	Non Hazardous		31

Related documents

#	Name	Description
1	BWB Contaminated Land Suite WM3	waste stream template used to create this Job

Report

Created by: Richard Robinson

Created date: 24 Apr 2025 15:38 GMT

Appendices

	Page
Appendix A: Classifier defined and non GB MCL determinands	34
Appendix B: Rationale for selection of metal species	35
Appendix C: Version	36

Classification of sample: DS01

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

Sample details

Sample name:	LoW Code:
DS01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				6 mg/kg	1.32	7.011 mg/kg	0.000701 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.49 mg/kg	2.775	1.203 mg/kg	0.00012 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.3 mg/kg	13.43	3.565 mg/kg	0.000357 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				13 mg/kg	1.462	16.814 mg/kg	0.00168 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				15 mg/kg	1.126	14.945 mg/kg	0.00149 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	24 mg/kg		21.239 mg/kg	0.00212 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				12 mg/kg	1.579	16.773 mg/kg	0.00168 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				29 mg/kg	4.398	112.867 mg/kg	0.0113 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.8 pH		7.8 pH	7.8 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.07 mg/kg		0.0619 mg/kg	0.00000619 %	✓	
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
31	pyrene				0.07 mg/kg		0.0619 mg/kg	0.00000619 %	✓	
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0195 %		

Key

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

Classification of sample: DS01[2]

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

Sample details

Sample name:	LoW Code:
DS01[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	<div><div></div><div>confirm TPH has NOT arisen from diesel or petrol</div></div>				<div><div></div><div></div></div>						
2	<div><div></div><div>arsenic { arsenic trioxide }</div></div>	033-003-00-0	215-481-4	1327-53-3	5.2 mg/kg	1.32	6.185 mg/kg	0.000619 %	✓		
3	<div><div></div><div>beryllium { beryllium oxide }</div></div>	004-003-00-8	215-133-1	1304-56-9	0.46 mg/kg	2.775	1.15 mg/kg	0.000115 %	✓		
4	<div><div></div><div>boron { boron tribromide/trichloride/trifluoride (combined) }</div></div>			10294-33-4, 10294-34-5, 7637-07-2	<0.2 mg/kg	13.43	<2.686 mg/kg	<0.000269 %		<LOD	
5	<div><div></div><div>cadmium { cadmium sulfide }</div></div>	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
6	<div><div></div><div>chromium { chromium(III) oxide (worst case) }</div></div>		215-160-9	1308-38-9	18 mg/kg	1.462	23.701 mg/kg	0.00237 %	✓		
7	<div><div></div><div>copper { dicopper oxide; copper (I) oxide }</div></div>	029-002-00-X	215-270-7	1317-39-1	8.3 mg/kg	1.126	8.419 mg/kg	0.000842 %	✓		
8	<div><div></div><div>lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }</div></div>	082-001-00-6			1	6.6 mg/kg	5.946 mg/kg	0.000595 %	✓		
9	<div><div></div><div>mercury { mercury dichloride }</div></div>	080-010-00-X	231-299-8	7487-94-7	<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
10	<div><div></div><div>nickel { nickel dihydroxide }</div></div>	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]	13 mg/kg	1.579	18.499 mg/kg	0.00185 %	✓		
11	<div><div></div><div>selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }</div></div>	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD	
12	<div><div></div><div>zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }</div></div>	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]	21 mg/kg	4.398	83.204 mg/kg	0.00832 %	✓		
13	<div><div></div><div>pH</div></div>			PH	7.9 pH		7.9 pH	7.9 pH			

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
31	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0147 %		

Key

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

Classification of sample: DS02

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

Sample details

Sample name:	LoW Code:
DS02	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
8.7%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.7% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				5.1 mg/kg	1.32	6.195 mg/kg	0.000619 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.52 mg/kg	2.775	1.328 mg/kg	0.000133 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.4 mg/kg	13.43	4.942 mg/kg	0.000494 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				13 mg/kg	1.462	17.48 mg/kg	0.00175 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				12 mg/kg	1.126	12.429 mg/kg	0.00124 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	14 mg/kg		12.879 mg/kg	0.00129 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				13 mg/kg	1.579	18.89 mg/kg	0.00189 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				24 mg/kg	4.398	97.102 mg/kg	0.00971 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				8.6 pH		8.6 pH	8.6 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
31	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0171 %		

Key

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

Classification of sample: DS03

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

Sample details

Sample name:	LoW Code:
DS03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
5%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 5% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				3.4 mg/kg	1.32	4.275 mg/kg	0.000428 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.27 mg/kg	2.775	0.714 mg/kg	0.0000714 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.6 mg/kg	13.43	7.674 mg/kg	0.000767 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.4 mg/kg	1.285	0.49 mg/kg	0.0000381 %	✓		
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				8.9 mg/kg	1.462	12.388 mg/kg	0.00124 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				7.8 mg/kg	1.126	8.364 mg/kg	0.000836 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	17 mg/kg		16.19 mg/kg	0.00162 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				8.9 mg/kg	1.579	13.388 mg/kg	0.00134 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				31 mg/kg	4.398	129.844 mg/kg	0.013 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				10.7 pH		10.7 pH	10.7 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				180 mg/kg		171.429 mg/kg	0.0171 %	✓	
		TPH								
16	benzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	ethylbenzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
18	toluene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	xylene				<8 µg/kg		<0.008 mg/kg	<0.0000008 %		<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]							
20	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
21	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
22	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
24	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
25	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
26	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
27	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
30	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
31	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
32	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
33	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
34	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
35	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
36	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0365 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%)
because: No significant volatile contamination or calorific materials encountered.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0171%)

Classification of sample: DS03[2]

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

Sample details

Sample name:	LoW Code:
DS03[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
N/A m	
Moisture content:	
7%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 7% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☑						
2	arsenic { arsenic trioxide }				4.8 mg/kg	1.32	5.923 mg/kg	0.000592 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.36 mg/kg	2.775	0.934 mg/kg	0.0000934 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	6.276 mg/kg	0.000628 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.3 mg/kg	1.285	0.36 mg/kg	0.000028 %	✓		
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				9.1 mg/kg	1.462	12.43 mg/kg	0.00124 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				14 mg/kg	1.126	14.731 mg/kg	0.00147 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	25 mg/kg		23.364 mg/kg	0.00234 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				8.7 mg/kg	1.579	12.843 mg/kg	0.00128 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD	
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				31 mg/kg	4.398	127.417 mg/kg	0.0127 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				10.1 pH		10.1 pH	10.1 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg		<0.000188 %		<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				120 mg/kg		112.15 mg/kg		0.0112 %	✓	
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-917-1	208-96-8								
18	anthracene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		204-371-1	120-12-7								
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-912-4	206-44-0								
27	fluorene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		201-581-5	85-01-8								
31	pyrene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg		<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0316 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No significant volatile contamination or calorific materials encountered.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0112%)

Classification of sample: DS04

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

Sample details

Sample name:	LoW Code:
DS04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(dry weight correction)	

Hazard properties

None identified

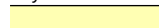
Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☑						
2	arsenic { arsenic trioxide }				1.2 mg/kg	1.32	1.402 mg/kg	0.00014 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.08 mg/kg	2.775	0.196 mg/kg	0.0000196 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.2 mg/kg	13.43	2.377 mg/kg	0.000238 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				3.2 mg/kg	1.462	4.139 mg/kg	0.000414 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				6.2 mg/kg	1.126	6.177 mg/kg	0.000618 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	4.6 mg/kg		4.071 mg/kg	0.000407 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				1.6 mg/kg	1.579	2.236 mg/kg	0.000224 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				3.5 mg/kg	4.398	13.622 mg/kg	0.00136 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.5 pH		7.5 pH	7.5 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	benzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	ethylbenzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
18	toluene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	xylene				<8 µg/kg		<0.008 mg/kg	<0.0000008 %		<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]							
20	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
21	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
22	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
24	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
25	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
26	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
27	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
30	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
31	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
32	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
33	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
34	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
35	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
36	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.00342 %		

Key

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

Classification of sample: DS05

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

Sample details

Sample name:	LoW Code:
DS05	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
N/A m	
Moisture content:	
13%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☑						
2	arsenic { arsenic trioxide }				8.5 mg/kg	1.32	9.932 mg/kg	0.000993 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.44 mg/kg	2.775	1.081 mg/kg	0.000108 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	5.942 mg/kg	0.000594 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.4 mg/kg	1.285	0.455 mg/kg	0.0000354 %	✓		
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				16 mg/kg	1.462	20.695 mg/kg	0.00207 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				92 mg/kg	1.126	91.665 mg/kg	0.00917 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	53 mg/kg		46.903 mg/kg	0.00469 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				13 mg/kg	1.579	18.171 mg/kg	0.00182 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD	
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				59 mg/kg	4.398	229.626 mg/kg	0.023 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				4.3 pH		4.3 pH	4.3 pH			
			PH								

#	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	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 }				2.3 mg/kg	1.884	3.835 mg/kg	0.000383 %	✓	
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				46 mg/kg		40.708 mg/kg	0.00407 %	✓	
			TPH							
16	benzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	ethylbenzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
18	toluene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
19	xylene				<8 µg/kg		<0.008 mg/kg	<0.0000008 %		<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]							
20	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
21	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
22	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
23	benzo[a]anthracene				0.11 mg/kg		0.0973 mg/kg	0.00000973 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	benzo[a]pyrene; benzo[def]chrysene				0.08 mg/kg		0.0708 mg/kg	0.00000708 %	✓	
	601-032-00-3	200-028-5	50-32-8							
25	benzo[b]fluoranthene				0.15 mg/kg		0.133 mg/kg	0.0000133 %	✓	
	601-034-00-4	205-911-9	205-99-2							
26	benzo[ghi]perylene				0.11 mg/kg		0.0973 mg/kg	0.00000973 %	✓	
		205-883-8	191-24-2							
27	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
28	chrysene				0.15 mg/kg		0.133 mg/kg	0.0000133 %	✓	
	601-048-00-0	205-923-4	218-01-9							
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
30	fluoranthene				0.24 mg/kg		0.212 mg/kg	0.0000212 %	✓	
		205-912-4	206-44-0							
31	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
32	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
33	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
34	phenanthrene				0.12 mg/kg		0.106 mg/kg	0.0000106 %	✓	
		201-581-5	85-01-8							
35	pyrene				0.21 mg/kg		0.186 mg/kg	0.0000186 %	✓	
		204-927-3	129-00-0							
36	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.047 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%)
because: No significant volatile contamination or calorific materials encountered.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00407%)

Classification of sample: DS06

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

Sample details

Sample name:	LoW Code:
DS06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 16% Dry Weight Moisture Correction applied (MC)

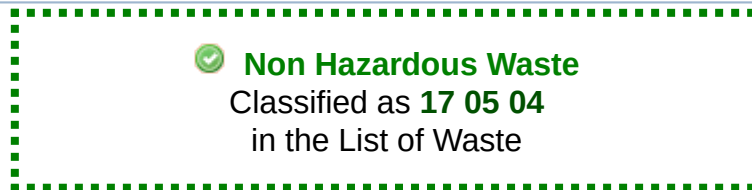
#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				9.6 mg/kg	1.32	10.927 mg/kg	0.00109 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.66 mg/kg	2.775	1.579 mg/kg	0.000158 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	5.789 mg/kg	0.000579 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				16 mg/kg	1.462	20.159 mg/kg	0.00202 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				22 mg/kg	1.126	21.353 mg/kg	0.00214 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	54 mg/kg		46.552 mg/kg	0.00466 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				13 mg/kg	1.579	17.701 mg/kg	0.00177 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				48 mg/kg	4.398	181.983 mg/kg	0.0182 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7 pH		7 pH	7pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.07 mg/kg		0.0603 mg/kg	0.00000603 %	✓	
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.08 mg/kg		0.069 mg/kg	0.0000069 %	✓	
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.11 mg/kg		0.0948 mg/kg	0.00000948 %	✓	
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.07 mg/kg		0.0603 mg/kg	0.00000603 %	✓	
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.1 mg/kg		0.0862 mg/kg	0.00000862 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.13 mg/kg		0.112 mg/kg	0.0000112 %	✓	
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.05 mg/kg		0.0431 mg/kg	0.00000431 %	✓	
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.07 mg/kg		0.0603 mg/kg	0.00000603 %	✓	
		201-581-5	85-01-8							
31	pyrene				0.14 mg/kg		0.121 mg/kg	0.0000121 %	✓	
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0307 %		

Key

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

Classification of sample: DS07



Sample details

Sample name:	LoW Code:
DS07	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9.9% (dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				9.1 mg/kg	1.32	10.933 mg/kg	0.00109 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.64 mg/kg	2.775	1.616 mg/kg	0.000162 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.2 mg/kg	13.43	2.444 mg/kg	0.000244 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				23 mg/kg	1.462	30.588 mg/kg	0.00306 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				17 mg/kg	1.126	17.416 mg/kg	0.00174 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	55 mg/kg		50.045 mg/kg	0.005 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				17 mg/kg	1.579	24.433 mg/kg	0.00244 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				45 mg/kg	4.398	180.079 mg/kg	0.018 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.8 pH		7.8 pH	7.8 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				14 mg/kg		12.739 mg/kg	0.00127 %	✓	
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.08 mg/kg		0.0728 mg/kg	0.00000728 %	✓	
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.07 mg/kg		0.0637 mg/kg	0.00000637 %	✓	
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.08 mg/kg		0.0728 mg/kg	0.00000728 %	✓	
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.05 mg/kg		0.0455 mg/kg	0.00000455 %	✓	
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.08 mg/kg		0.0728 mg/kg	0.00000728 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.14 mg/kg		0.127 mg/kg	0.0000127 %	✓	
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.07 mg/kg		0.0637 mg/kg	0.00000637 %	✓	
		201-581-5	85-01-8							
31	pyrene				0.14 mg/kg		0.127 mg/kg	0.0000127 %	✓	
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0331 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No significant volatile contamination or calorific materials encountered.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00127%)

Classification of sample: DS09

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

Sample details

Sample name:	LoW Code:
DS09	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
N/A m	
Moisture content:	
13%	
(dry weight correction)	

Hazard properties

None identified

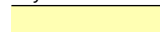
Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☑						
2	arsenic { arsenic trioxide }				9 mg/kg	1.32	10.516 mg/kg	0.00105 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.96 mg/kg	2.775	2.358 mg/kg	0.000236 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	5.942 mg/kg	0.000594 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				23 mg/kg	1.462	29.748 mg/kg	0.00297 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				25 mg/kg	1.126	24.909 mg/kg	0.00249 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	33 mg/kg		29.204 mg/kg	0.00292 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				19 mg/kg	1.579	26.558 mg/kg	0.00266 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				41 mg/kg	4.398	159.571 mg/kg	0.016 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				8 pH		8 pH	8pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<LOD
			TPH								
16	benzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	ethylbenzene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	toluene				<5 µg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
19	xylene				<8 µg/kg		<0.008 mg/kg	<0.0000008 %			<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]								
20	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
21	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
22	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
25	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
27	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
28	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
30	fluoranthene				0.06 mg/kg		0.0531 mg/kg	0.00000531 %	✓		
		205-912-4	206-44-0								
31	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
32	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
33	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
34	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
35	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
36	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0289 %		

Key

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

Classification of sample: DS10

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

Sample details

Sample name:	LoW Code:
DS10	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				10 mg/kg	1.32	11.582 mg/kg	0.00116 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.68 mg/kg	2.775	1.655 mg/kg	0.000166 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.7 mg/kg	13.43	8.246 mg/kg	0.000825 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				19 mg/kg	1.462	24.359 mg/kg	0.00244 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				21 mg/kg	1.126	20.74 mg/kg	0.00207 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	59 mg/kg		51.754 mg/kg	0.00518 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				14 mg/kg	1.579	19.397 mg/kg	0.00194 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				51 mg/kg	4.398	196.749 mg/kg	0.0197 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.3 pH		7.3 pH	7.3 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.13 mg/kg		0.114 mg/kg	0.0000114 %	✓	
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.12 mg/kg		0.105 mg/kg	0.0000105 %	✓	
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.14 mg/kg		0.123 mg/kg	0.0000123 %	✓	
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.09 mg/kg		0.0789 mg/kg	0.00000789 %	✓	
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.07 mg/kg		0.0614 mg/kg	0.00000614 %	✓	
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.15 mg/kg		0.132 mg/kg	0.0000132 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.24 mg/kg		0.211 mg/kg	0.0000211 %	✓	
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.08 mg/kg		0.0702 mg/kg	0.00000702 %	✓	
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.11 mg/kg		0.0965 mg/kg	0.00000965 %	✓	
		201-581-5	85-01-8							
31	pyrene				0.25 mg/kg		0.219 mg/kg	0.0000219 %	✓	
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0336 %		

Key

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

Classification of sample: DS11

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

Sample details

Sample name:	LoW Code:
DS11	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
N/A m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				7.8 mg/kg	1.32	9.278 mg/kg	0.000928 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.54 mg/kg	2.775	1.35 mg/kg	0.000135 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.2 mg/kg	13.43	2.42 mg/kg	0.000242 %	✓		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				12 mg/kg	1.462	15.801 mg/kg	0.00158 %	✓		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				16 mg/kg	1.126	16.229 mg/kg	0.00162 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	40 mg/kg		36.036 mg/kg	0.0036 %	✓		
	082-001-00-6										
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				11 mg/kg	1.579	15.653 mg/kg	0.00157 %	✓		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				33 mg/kg	4.398	130.749 mg/kg	0.0131 %	✓		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.6 pH		7.6 pH	7.6 pH			
			PH								

#	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	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				34 mg/kg		30.631 mg/kg	0.00306 %	✓	
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.07 mg/kg		0.0631 mg/kg	0.00000631 %	✓	
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.06 mg/kg		0.0541 mg/kg	0.00000541 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.08 mg/kg		0.0721 mg/kg	0.00000721 %	✓	
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
31	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0258 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 10000 mg/kg (1%) because: No significant volatile contamination or calorific materials encountered.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00306%)

Appendix A: Classifier defined and non GB MCL determinands

confirm TPH has NOT arisen from diesel or petrol

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

boron tribromide/trichloride/trifluoride (combined) (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride
Data source: N/A
Data source date: 06 Aug 2015
Hazard Statements: EUH014 , Acute Tox. 2; H330 , Acute Tox. 2; H300 , Skin Corr. 1A; H314 , Skin Corr. 1B; H314

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

pH (CAS Number: PH)

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

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

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

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

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

• **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

• **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

• **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

• **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

• **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

• **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

• **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

• **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

beryllium {beryllium oxide}

Worst case species based on risk phrases

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

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

All chromium VI concentrations are below the laboratory LoD of 1.8mg/kg.

copper {dicopper oxide; copper (I) oxide}

Most likely common species

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

All chromium VI concentrations are below the laboratory LoD of 1.8mg/kg.

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

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

Worst case species based on risk phrases

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

All chromium VI concentrations are below the laboratory LoD of 1.8mg/kg.

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}

Worst case species

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2025.113.6581.11971 (23 Apr 2025)

HazWasteOnline Database: 2025.113.6581.11971 (23 Apr 2025)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

GB MCL List v2.0 - version 2.0 of 20th October 2023

GB MCL List v3.0 - version 3.0 of 11th January 2024

GB MCL List v4.0 - version 4.0 of 2nd March 2024

GB MCL List v5.0 - version 5.0 of 26th June 2024

GB MCL List v6.0 - version 6.0 of 15th February 2025

Appendix 10 Risk Classification

BWB RISK ASSESSMENT CLASSIFICATION (REFERENCE CIRIA C552, CONTAMINATED LAND RISK ASSESSMENT: A GUIDE TO GOOD PRACTICE, 2001)

CIRIA C552, *Contaminated Land Risk Assessment A Guide to Good Practice*, 2001 sets out a methodology for estimating risk. The methodology for risk evaluation is a qualitative method for interpreting the output for the risk estimation stage of the assessment. It involves the classification of the:

- Magnitude of the potential consequence (severity) of risk occurring; and
- Magnitude of the probability (likelihood) of the risk occurring.

The classification of consequence and probability are replicated in **Table 1** and **Table 2**, respectively.

Table 1: Classification of Consequence

Classification	Definition	Examples
Severe (Sv)	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium (Md)	Chronic damage to Human Health ("significant harm"). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant from site exceeding the generic or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of species within a designated nature reserve.
Mild (Mi)	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor (Mr)	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by measures such as protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentration that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

The classification of consequence does not take into account the probability of the consequence being realised. Therefore, there may be more than one consequence for a particular pollutant linkage. Both a severe and medium classification can result in death.

Severe relates to short term (acute) risk while medium relates to long term (chronic) risk. Mild relates to significant harm but to less sensitive receptors. Minor classification relates to harm which is not significant but could have a financial cost.

Table 2: Classification of Probability

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

The classification gives a guide as to the severity and consequence of identified risk when compared with other risk presented on the site. It should be noted that if a risk is identified it cannot be classified as “no risk” but as “very low risk”. Differing stakeholders may have a different view on the acceptability of a risk.

Once the consequence and probability have been classified these can be compared using a matrix to identify an overall risk category, as shown in **Table 3**. These categories and the actions required are categorised in **Table 4**.

Table 3: Risk Evaluation Matrix

Consequence		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High likelihood (Hi)	Very High Risk (VH)	High Risk (H)	Moderate Risk (M)	Mod/Low Risk (M/L)
	Likely (Li)	High Risk (H)	Moderate Risk (M)	Mod/Low Risk (M/L)	Low Risk (L)
	Low likelihood (Lw)	Moderate Risk (M)	Mod/Low Risk (M/L)	Low Risk (L)	Very Low Risk (VL)
	Unlikely (Ui)	Mod/Low Risk (M/L)	Low Risk (L)	Very Low Risk (VL)	Very Low Risk (VL)

Table 4: Risk Categorisations

Very High Risk (VH)	<p>There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening.</p> <p>This risk, if realised, is likely to result in a substantial liability.</p> <p>Urgent investigation (if not undertaken already) and remediation are likely to be required.</p>
High Risk (H)	<p>Harm is likely to arise to a designated receptor from an identified hazard.</p> <p>Realisation of the risk is likely to present a substantial liability.</p> <p>Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.</p>
Moderate Risk (M)	<p>It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.</p> <p>Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.</p>
Low Risk (L)	<p>It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.</p>
Very Low Risk (VL)	<p>There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.</p>

Reference:

CIRIA C552 *Contaminated land risk assessment. A guide to good practice*. Rudland, D J, Lancefield, R M, Mayell, P N, 2001.

