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CONSULTING

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SUMMARY

Site Details	
Site Location	*The site is located circa 2.0km east of Manchester City Centre and is approximately centred on National Grid Reference 393530, 398720.*
Site Area	*The site is irregular in shape and covers an area of approximately 1.11 hectares. The topography of the site is generally level, with a gentle incline in the south west.* *The site currently consists of Brunswick Mill in the north east, and the area of land which previously contained India Mills to the south west. The Ashton Canal and towpath are to the immediate south west.*
Ground Model	
Made Ground Soils	*Made Ground was encountered beneath the site to depths of between 2.3m and 4.0m bgl where fully penetrated in WS08, WS10, WS11, TP05 to TP07 and BH01 to BH03.* *The surfacing generally consisted of a mixture of cobbles and concrete. The remainder comprised variably clayey gravelly sand, gravelly sandy clay and sandy clayey gravel. The minor constituents included brick, concrete, ceramics, plastic, fabric, sandstone, wood, slate, ash, tarmac, slag and glass.*
Natural Soils	*Firm becoming stiff with depth grey brown variably cobbly gravelly sandy silty Clay with minor constituents of shale, coal, and sandstone was encountered in BH1, BH2, BH3, HP02, TP05 to TP07, WS08, WS10 and WS11 from depths between 1.0m and 4.0m bgl to depths of up to 17.8m bgl.* *Medium dense brown variably clayey Sand was present in BH2 and WS10 from depths between 3.0m and 15.2m bgl to depths between 3.5m and 15.5m bgl.*
Bedrock	*Weathered Sandstone deposits recovered as dense to very dense brown sandy silty clayey Gravel and gravelly sandy Cobbles were observed in BH1 from 13.0m to 17.0m bgl and in BH3 from 14.0m to 15.0m bgl.* *More competent bedrock was encountered in the form of very weak to weak red brown fine grained Sandstone in BH1 to BH3 from depths between 15.5m and 17.8m bgl to depths between 24.0m to 26.0m bgl where the deeper boreholes were terminated.*
Groundwater	*Perched groundwater was encountered in the Made Ground of HP04, HP07, HP08, HP09, HP10, TP01 and TP04 at depths of between 1.0m and 3.0m bgl.* *Groundwater was in BH3 at 20.0m bgl in the Sandstone and in WS11 at 3.45m bgl in the sandy Clay.*
Ground Engineering Assessment	
Foundations	*The most suitable solution for the proposed apartment development is considered to be piled foundations transferring loads through the underlying Made Ground and natural Clay and Sand strata to the very weak Sandstone which has been encountered between 15.5m and 17.8m bgl. The most suitable type of pile for the development is considered to be Continuous Flight Auger (CFA) bored pile, this should be discussed with the preferred piling contractor.* *The development layout needs to consider an easement associated with the canal along the northern and western boundary.*

Archaeology	*There are archaeological restrictions on the site that require consideration.*
Concrete	*The results of laboratory pH and sulphate content indicate that ACEC Class AC-3 and sulphate class DS-3 conditions prevail in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005.*
Highways / Pavements	*CBR values of 2% to 5% are likely to be achieved in any shallow undisturbed natural soils for pavement design purposes. Untreated Made Ground should be assumed to have a CBR value of less than 2.5%, unless proven otherwise.*
SuDS	*SuDS drainage is unlikely to be a feasible option at the site due to the presence of deep Made Ground and natural cohesive soils beneath the site which are capable of poor infiltration rates.*
Constraints	*The main constraints associated with the site include the following:* • *Deep Made Ground up to 4.0m bgl.* • *Relic structures and obstructions encountered within the trial pits, including brick walls, concrete slabs, and the partially demolished walls from the previous methodist chapel.* • *Easement associated with the adjacent canal.* • *Stockpiles of waste and fly tipping against the side of the external mill walls, including multiple LPG gas cannisters.* • *Existing tank located adjacent to the existing mill on the north western boundary. This will need decommissioning and removal offsite.* • *Incline towards the Ashton Canal towpath in the south west of the site.* • *6F2 stockpile running adjacent to the north western site boundary.* • *Heterogenous nature of the Made Ground.* • *Perched groundwater.* • *Instability in Made Ground as observed in the trial pits.*
GQRA and Revised (PL) Assessment	
Human Health	*Geo-environmental testing has recorded elevated concentrations of metals and PAHs within the granular Made Ground soils. In addition, elevated concentrations of hydrocarbons were recorded in HP11 which was excavated adject to an above ground tank. Asbestos was detected in two of thirty-two samples that were screened.* *It is proposed to develop the site with apartments which will include areas of soft landscaping therefore the risk to human health is considered to be Moderate.*
Vapours	*Potential sources of volatiles have been identified and the risk from vapours is considered to be Moderate to High.*
Controlled Waters	*Groundwater testing indicates that elevated concentrations of Nickel, Zinc and PAHs are present in the samples that were taken from beneath the site. The site has historically been surrounded by industrial premises which are indicated to be the source of the contamination. In addition, the site is underlain by natural cohesive deposits which will have prevented the downward migration of potential contaminants. At present, the risk to groundwater is Moderate to Low and a second round of groundwater monitoring is required. The risk to nearby surface water is Low.*
Permanent Ground Gas	*Interim gas monitoring results currently place the site into CS2 and gas protection measures will be required. This will be confirmed upon completion of the monitoring. The site is also located in an area*

requiring basic radon precautions within foundations. In addition, allowance should be made for the membrane to be resistant to vapours as well. The risk from permanent ground gases is Moderate to High.

Final Appraisal

The following work is considered necessary in order to progress the site to the construction phase:

- *Completion of gas monitoring programme*
- *Issue gas assessment*
- *Second round of groundwater testing*
- *Further environmental testing of 6F2 stockpile if utilised*
- *Removal of piles of waste and fly tipping in the external area*
- *Demolition and Refurbishment Asbestos survey*
- *Production of Remedial Specification*
- *Vapour modelling, if required*
- *Tree survey by qualified arboriculturist*
- *Detailed foundation design*
- *Confirmation of the recommendations made within this report with the Regulators*

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Plans		
Plan Reference	*Revision*	*Title*
GRO-22462-P01	-	*Project Location Plan*
GRO-22462-P02	-	*Exploratory Hole Location Plan*
GRO-22462-P03	-	*Obstructions Plan*
GRO-22462-P04A – P04M	-	*Foundation Cross Sections*
GRO-22462-P05	-	*Generalised Ground Model*
GRO-22462-P06	-	*Contamination Plan*
GRO-22462-P07	-	*Illustrative Revised CSM*

1.0 INTRODUCTION

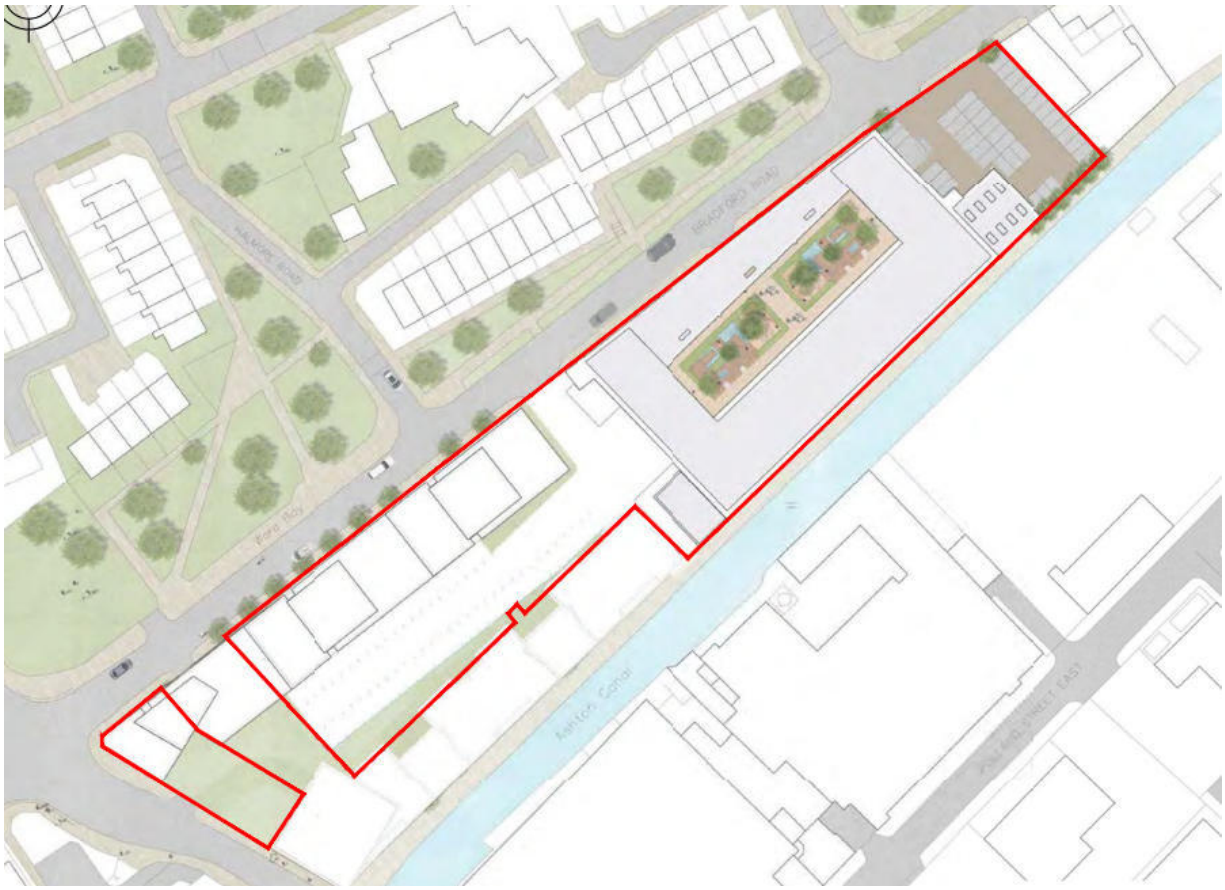
1.1 Project Objectives

Groundtech Consulting Limited have been instructed by Civic Engineers on behalf of Arrowsmith Investment Limited to undertake a Ground Investigation at Brunswick Mill in Manchester.

The investigation was undertaken in accordance with BS 5930:2020, BS 10175:2017, BS 8576:2013 and Eurocode 7. The Appraisal has been prepared in accordance with current UK Legislation and to discharge Land Quality pre-commencement planning conditions.

1.2 Proposed Development

The proposed development is residential end use comprising the redevelopment of the current mill building into 153 No. residential apartments, and the construction of two additional blocks containing 124 No. residential apartments on the adjacent land to the south west.



Proposed Development

1.3 Limitations

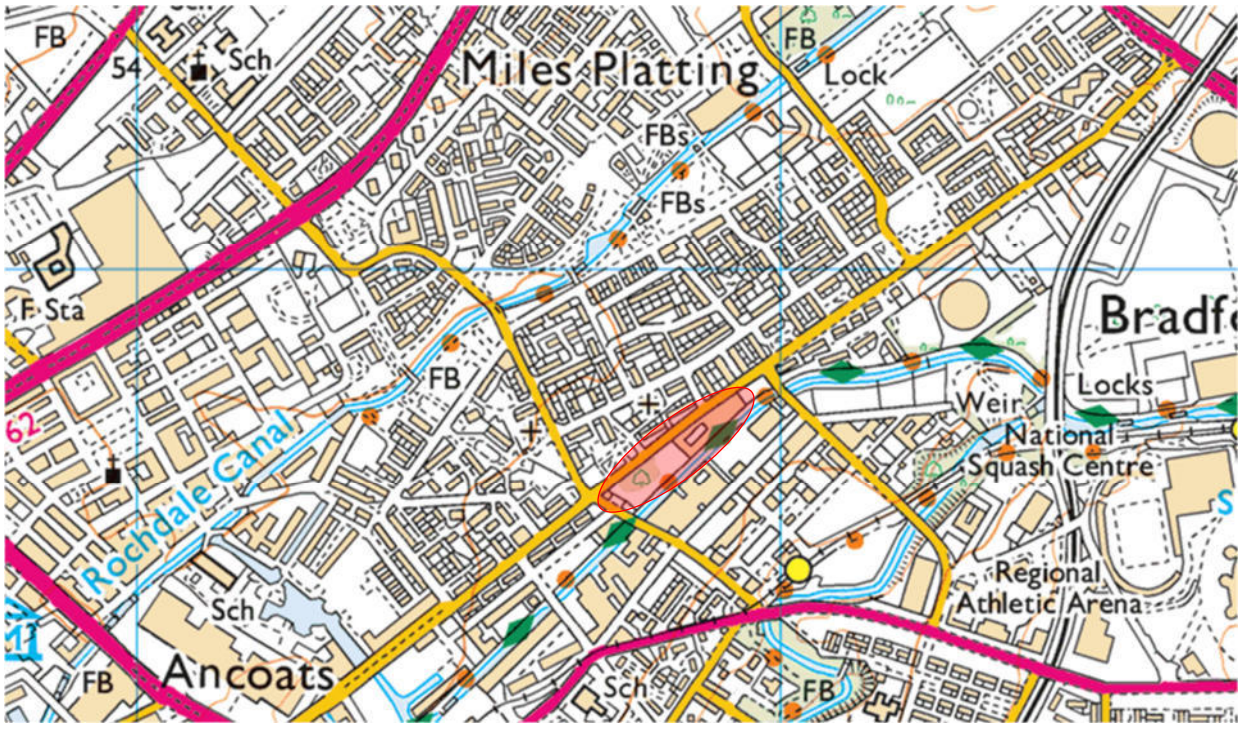
Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

The assessment has been prepared for the exclusive use of the client. No third parties may rely on or reproduce the contents of the report without the written permission of Groundtech Consulting Limited. If any unauthorised third party comes into possession of the report, they rely on it at their own risk and Groundtech Consulting Limited will not be obliged to provide a duty of care.

2.0 SITE SETTING

2.1 Location

The site is located circa 2km east of Manchester City Centre, as shown on the Project Location Plan *GRO-22462-P01* and is approximately centred on National Grid Reference 393530, 398720.



Project Location

Access to the site is gained off Bradford Road to the north west.

2.2 Site Description

The site is irregular in shape and covers an area of approximately 1.11 hectares. The topography of the site is generally level with an approximate 2.0m incline in the south west towards the Ashton Canal towpath.

Site Features
The site currently consists of Brunswick Mill in the north eastern half of the site, and an area of undeveloped land which previously contained India Mills to the south west. The Ashton Canal towpath runs adjacent to the external area alongside the canal in the south east.

Brunswick Mill is four to seven storeys in heigh and is of brick construction with many of the windows being bricked up as well. A number of bricked archways are present at ground floor level. Midway along the north western elevation of the mill building is a larger archway which leads to the central part of the site. The mill building spans the width of the site from Bradford Road to Ashton Canal.

An old above ground steel tank is present along the southern elevation of the mill building adjacent to Bradford Road. The tank is located in a brick bund.

To the south west of the mill building is an area of derelict land which is covered with stone and rough vegetation. Across this area are several soil bunds formed from demolition waste. A stockpile of 6F2 material is present alongside the north west boundary on the footprint of the proposed properties.

A gravel access track leads from the south western corner of the site to a raised area of gravel which runs adjacent to the canal and was probably formerly used for car parking.

Terraced houses and a methodist chapel previously existed in the south west corner block on the southern boundary of the site before it was partially demolished in 2018. A relic brick wall of this building exists on this area above a suspected LP gas main.

Stockpiles of waste, litter and fly tipping are present scattered around the central area of the external site adjacent to the existing Brunswick Mill building. This includes multiple LPG gas cannisters.

Boundaries and Surrounding Features

The site boundaries are formed by a mixture of brick walls and metal fences.

The site is surrounded by the following features/land uses:

- *North - Garage, Bradford Road and residential properties.*
- *East - Ashton Canal and industrial units.*
- *South - Beswick Street, Ashton Canal and commercial properties.*
- *West - Bradford Road and residential properties.*

Site photographs are presented in *Appendix 2* and any relevant features are recorded on the Preliminary Development Constraints Plan *GRO-22462-P02*.

3.0 PREVIOUS INVESTIGATION SUMMARY

3.1 Previous Investigation

A previous Phase 1 and Phase 2 investigation was undertaken by LK Consult Limited, with the Phase 1 report referenced *LKC 18 1200* being published in June 2018, and the Phase 2 Ground Investigation referenced *LKC 21 1683* being undertaken in November 2021. A summary of the reports is presented below.

3.2 Phase 1 Report Summary

Historical Map Consultation
Brunswick Mill (north east site area):

- *Existed since the mid-19th century.*
- *Chimney was constructed in the south west corner in 1908.*
- *Split and used as warehouse, works, and depot in the mid-1960s.*
- *Works annotated as 'clothing factory' in 1968.*
- *Whole building annotated as 'warehouse' in 1989.*

India Mills (south west site area):

- *Existed since the mid-19th century.*
- *Annotated as Manchester Works (finishing and storage) by 1908.*
- *Changed to Emka Works by 1949.*
- *Annotated as clothing works/factory in mid to late 1960s.*
- *Demolished by 2006.*

Corner Block (south west corner of the site):

- *Terraced houses existed since late 19th century.*
- *Demolished and replaced by Methodist Chapel since 1908.*
- *Building disused since 1953.*
- *Partially demolished in 2018.*

Geology and Hydrogeology
Made Ground is recorded beneath the site and is underlain by superficial Glacial Till and the Etruria Formation (Sandstone) bedrock. The Glacial Till is classified as a Secondary (Undifferentiated) Aquifer, and the Etruria Formation is indicated to be a Secondary A Aquifer.

The site is not within a SPZ.

Hydrology
The nearest surface water feature is the Ashton Canal immediately south west.

There are no groundwater abstractions within 1km of the site.

The site is not at risk from river or coastal flooding. There is potential for groundwater flooding below ground level in the east of the site. There are two surface water abstractions within 250m, one of them being c.6m north east in the Ashton Canal.

A discharge consent is located c.222m south east relating to storm sewage overflow.

The nearest pollution incident occurred c.53m west in 1996, with green oil residue in the Ashton Canal. It was labelled as a category 3 – minor impact.

Mining

- *The site is not within a Development High Risk Area.*
- *The site is in a surface area that could be affected by underground mining in four seams of coal at 200m to 1,100m depth, last worked in 1961.*
- *There are no mine entries within 20m of the site.*
- *The Holt Town brick field was located c.79m east, which consisted of opencast extraction of clay and shale. This operation has since ceased.*

Landfills

No known landfills are located within 250m of the site. The nearest is c.312m east, Cambrian Street Depot, which deposits inert waste. Two potential landfills are located within 250m, these include a brickfield c.20m south, potentially infilled by 1893, and a reservoir located c.160m south east, also infilled by 1893.

Radon

The radon potential for the site is indicated to be <1%. (However, the new radon maps published in December 2022 show the site to be in an area where the probability is 5 to 10% and basic radon measures will be required).

Potential Contaminants

There have been several sources of potential contamination outlined, including former buildings on site, Made Ground, Cotton Mill and Clothing Works, garage to the north east, offsite chemical works (tar distillery), offsite potentially infilled ground, and surrounding industries. These could be potential sources of asbestos, ash, clinker, heavy metals, PAHs, sulphates, inorganic compounds, solvents, soaps, detergents, TPHs, and ground gases.

Conceptual Site Model

The overall risk to human health was considered to be *Moderate,* and the overall risk to groundwater was considered to be *Moderate to Low*.

An intrusive site investigation including chemical testing, geotechnical testing, and gas standpipe monitoring was recommended.

3.3 Investigatory of Works

The following scope of works was undertaken by LK Consult Limited on the 10th and 11th November 2021:

- *13 No. windowless sample boreholes (WS101 to WS110) were advanced to depths between 0.9m and 5.45m bgl.*
- *4 No. hand pits (HD1 to HD4) were dug to depths between 0.3m and 1.2m bgl.*

3.4 Ground Model

Surfacing
The surfacing of the mill courtyard (WS101 to WS104 and HD1 to HD4) generally comprised concrete, with cobble flagstone encountered locally in HD4, WS102B, WS103 and WS104. WS108 was undertaken on the north western site boundary, and was also surfaced by concrete.

Made Ground
Three main populations of Made Ground were encountered during the investigation and are described below:

- *Dark grey red/brown black sandy silty gravel with constituents of brick, ash, clinker, breezeblock, coal, glass, concrete, and rootlets was encountered in HD1, HD2, HD4, WS102, WS102B, WS103, WS104, WS105, WS105B, WS107, WS109, and WS110 from depths between ground level and 0.1m bgl to depths between 0.55m and 1.65m bgl.*

- *Brown grey gravelly silty sand with minor constituents of brick, coal, ash, clinker, and timber was encountered in HD1, HD2, WS101, WS106, WS108 from depths between ground level and 0.25m bgl to depths between 0.55m and 2.15m bgl.*

- *Brown gravelly sandy silty clay with minor constituents of brick, ash, coal, plastic, timber, tile, and aluminium was encountered in HD1, HD2, WS101, WS102B, WS103, WS104 and WS107B from depths between ground level and 1.2m bgl to depths between 0.9m and 2.0m bgl.*

Locally to WS101, brown gravelly sandy silt with minor constituents of brick and coal was encountered from a depth of 0.55m bgl to a depth of 0.7m bgl.

Locally to HD3, sandstone was encountered from a depth of 0.15m to 0.3m bgl.

Natural Strata
Two main stratifications were encountered during the investigation and are described below:

- *Firm to stiff grey brown gravelly sandy variably silty Clay in WS101, WS102B, WS103, and WS104 from depths between 1.2m and 2.0m bgl to depths of up to 5.45m bgl.*

- *Stiff to very stiff dark brown orange/grey Clay was encountered in WS106, WS109, and WS110 from depths between 1.6m and 2.0m bgl to depths between 4.35m and 5.45m bgl.*

Monitoring standpipes were installed in WS101, WS103, WS104, WS106, WS108, and WS109 to depths between 2.0m and 4.5m bgl.

Bedrock
Bedrock was not encountered during the investigation.

Groundwater
No groundwater was encountered during the investigation.

Watching Brief
Visual evidence of contamination was recorded in the form of ash and clinker in the Made Ground soils. Olfactory evidence of contamination was recorded in the form of a hydrocarbon odour in WS102B, WS103, WS104, and WS105B.

Evidence of instability was noted in WS109 after the borehole collapsed to 2.0m bgl.

3.5 Geo-Environmental Testing

Testing for various Contaminants of Concern (CoCs) was undertaken on 19 No. samples of the Made Ground and 4 No. samples of the natural strata.

The environmental testing targeted the following CoCs - heavy metals, speciated PAHs, asbestos, TPH CWG, VOCs, cyanide, and phenols. A number of CoCs were recorded above the generic screening values for residential development (with plant uptake) and are summarised below:

- *Arsenic*
- *Lead*
- *Naphthalene*
- *Fluorene*
- *Phenanthrene*
- *Fluoranthene*
- *Benzo(a)anthracene*
- *Chrysene*
- *Benzo(b)fluoranthene*
- *Benzo(a)pyrene*
- *Indeno(123-cd)pyrene*
- *Dibenzo(ah)anthracene*
- *Aromatic TPH CWG C12-C16*
- *Aromatic TPH CWG C16-C21*
- *Aromatic TPH CWG C21-C35*

The sources of these elevated contaminants are likely to be the historic cotton and textile industry activity, the tank on the north western boundary adjacent to Brunswick Mill, activity from the Ashton Canal to the east, activity from the surrounding industries including the MOT garage to the north east, and the construction and demolition of the India Mills, terraced houses and methodist chapel in the external site.

4.0 SCOPE OF INVESTIGATION AND RATIONALE

4.1 Project Objectives

The aim of the Groundtech Consulting fieldwork was to:

Determine the stratification beneath the site.
Maintain a watching brief for visual and olfactory evidence of contamination.
Obtain samples using methodology in current guidance for contamination analysis.
Identify realistic pollution linkages to groundwater.
Obtain relevant geotechnical parameters for preliminary foundation design to address both ULS and SLS conditions.
Determine geometrics of existing foundations.
Determine if targeted supplementary investigation in areas of concern is required and for remedial design.
Install monitoring standpipes for gas and groundwater monitoring.
Assess the identified pollution linkages in the CSM.

4.2 Scope of Works

The following scope of works was completed between the dates of 2nd May and 12th May 2023:

- *15 No. windowless sample boreholes (WS01 to WS11) were advanced to depths between 0.1m and 4.0m bgl using a Dando Terrier rig.*
- *7 No. machine excavated trial pits (TP01 to TP07) were advanced to depths between 1.5m and 3.0m using a JCB 3CX excavator.*
- *3 No. cable percussive boreholes (BH1 to BH3) were advanced to depths between 16.0m and 20.0m bgl.*
- *3 No. rotary core follow on boreholes were advanced in BH1 to BH3 to depths between 22.0m and 26.0m bgl.*
- *14 No. hand excavated trial pits (HP01 to HP13A) were excavated to depths between 0.5m and 1.2m bgl.*

On completion of the works, the exploratory were surveyed in.

The exploratory hole locations are presented on Groundtech Plan *GRO-22462-P03* and the exploratory hole logs are in *Appendix 3*.

The exploratory holes were positioned to establish the stratification beneath the site, and target any areas of concern as summarised in the table below:

Location	Target Rationale
BH1 to BH3	*Proposed new build apartment blocks*
WS01 to WS08 *TP01, TP02, TP04 to TP07*	*General coverage (external site)*
WS09 to WS11	*General coverage (mill courtyard)*
TP03	*6F2 stockpile*
HP11	*Former fuel tank*

HP01 to HP04, HP11, HP12	*Determine geometry of existing external wall foundations*
HP05, HP06, HP09, HP10	*Determine geometry of existing internal wall foundations*
HP07, HP08	*Determine geometry of existing internal column foundations*
HP13, HP13A	*Expose presence of LP gas main*

The exploratory holes were logged by a suitably experienced geo-environmental engineer in general accordance with the following current guidance:

- *BS 5930 'Code of Practice for Site Investigations' 2015.*
- *BS EN 14688-1:2002 'Geotechnical Investigation and Testing – Identification and classification of soil'.*
- *BS EN ISO 14689:2002 'Geotechnical investigation and testing – Identification and classification of rock'.*

4.3 Soil Sampling

During the intrusive investigation, representative samples were taken at regular intervals, changes of strata and where evidence of contamination existed. Laboratory analysis was scheduled on the samples obtained.

The samples obtained are summarised in the table below:

Soil Sample	Number
Environmental Sample	*82*
Disturbed Sample	*56*
Undisturbed U100 Sample	*10*

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed to obtain samples from all required strata using the correct methodology.

Disturbed samples of soil for geo-environmental testing were placed in the correct sampling containers as required by the laboratory in accordance with their MCERTS and UKAS Accreditation. Transportation was arranged in a timely manner and the samples were at the correct temperature.

The sample locations and depths are recorded on the exploratory logs.

4.4 Geo-Environmental Testing

To inform the Generic Quantitative Risk Assessment, the following geo-environmental testing was scheduled to assess the risk from contamination on the site. The testing is based on the potential sources identified in the PRA and observations made during the Ground Investigation.

Contaminants of Concern	Matrix	Number
Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, Nickel, Selenium, Zinc, Organic Matter, Sulphate, and pH.	*Soil*	*32*
Speciated Polycyclic Aromatic Hydrocarbons (PAHs)	*Soil*	*32*
Asbestos Screening	*Soil*	*32*
Asbestos Quantification	*Soil*	*2*
Total Petroleum Hydrocarbons (TPH CWG)	*Soil*	*11*

Volatile Organic Compounds (VOCs)	*Soil*	*5*
Semi Volatile Organic Compounds (SVOCs)	*Soil*	*2*

Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, Nickel, Selenium, Zinc, Organic Matter, Sulphate, and pH.	*Groundwater*	*2*
Speciated Polycyclic Aromatic Hydrocarbons (PAHs)	*Groundwater*	*2*
Total Petroleum Hydrocarbons (TPH CWG)	*Groundwater*	*2*
Volatile Organic Compounds (VOCs)	*Groundwater*	*2*
Semi Volatile Organic Compounds (SVOCs)	*Groundwater*	*2*
DOC and CaCO3	*Groundwater*	*2*

The Geo-Environmental Laboratory Soil Testing Results are presented in *Appendix 4* and the Groundwater Testing Results are in *Appendix 5.*

Representative disturbed samples were obtained for all soil types encountered. Selected samples were scheduled for testing at an approved laboratory in accordance with BS 1377 'Method of Test for Soils for Civil Engineering Purposes' 1990. The following tests were scheduled:

British Standard	Test Method	Number
Part 2	*Plasticity Index Analysis*	*5*
Part 2	*Water Content*	*5*
Part 3	*pH Value*	*5*
Part 3	*Water Soluble Sulphate*	*5*
Part 7	*Undrained Shear Strength in Triaxial Compression*	*4*
Part 5	*Unconfined Compression Test (UCS)*	*3*

The Geotechnical Laboratory Testing Results are presented in *Appendix 6*.

4.5 Gas and Groundwater Monitoring

Gas and groundwater monitoring installations were constructed in the boreholes. The standpipes consisted of polyvinyl chloride (PVC) and high-density polyethylene (HDPE) pipe - a bentonite seal was placed around the plain pipe and a clean gravel pack was placed around the slotted pipe. A summary of the installation construction is presented in the table below:

Location	Depth (m bgl)	Response Zone (m bgl)	Targeted Strata	Reason
BH3	*3.00*	*1.00 – 3.00*	*Made Ground/Clay*	*Ground Gas*
WS02A	*2.00*	*1.00 – 2.00*	*Made Ground*	*Ground Gas*
WS05	*2.00*	*1.00 – 2.00*	*Made Ground*	*Ground Gas*
WS07A	*1.50*	*1.00 – 1.50*	*Made Ground*	*Ground Gas*
WS08	*4.00*	*1.00 – 4.00*	*Made Ground/ Clay*	*Ground Gas*
BH1	*24.00*	*18.00 – 24.00*	*Sandstone*	*Ground Gas/Groundwater*
BH2	*21.00*	*18.00 – 21.00*	*Sandstone*	*Ground Gas/Groundwater*
BH3	*21.00*	*18.00 – 21.00*	*Sandstone*	*Ground Gas/Groundwater*

Permanent gas and flow rate monitoring was carried out using a GFM 436 infrared gas monitor with integral electronic flow analyser. The measurements taken are listed below:

- *Oxygen (O_2), carbon dioxide (CO_2) and methane (CH_4) as the percentage volume in air (%v/v).*
- *Hydrogen sulphide (H_2S) and carbon monoxide (CO) as the percentage volume in air (%v/v).*
- *Lower Explosive Limit (%LEL) of methane.*
- *Atmospheric and borehole pressure, including pressure trend.*
- *Flow measurements (l/hr).*
- *Weather conditions.*

Both peak and steady state conditions were monitored to understand the behaviour of the permanent ground gas, the steady state conditions were recorded by allowing the gas monitor to run for a minimum of 3 minutes.

Interim gas and groundwater monitoring results are presented in *Appendix 7*.

4.6 Groundwater Sampling

Well development was carried out to ensure no cross contamination from the drilling activities remained in the water column in the well. During the return visit, the installations were purged to a minimum three times the volume of the water column in the borehole prior to sampling. Purging was undertaken at a slower rate than the well development, and the sampling at a slower rate again.

The method of sampling selected was using a low flow pump due to the contamination identified during the Ground Investigation. Groundwater samples were taken from BH01 and BH03.

Where possible, a water meter was used to test the pH, temperature, and conductivity before sampling until equilibrium conditions were met, in accordance with BS 10175 guidelines.

Samples were sent to the UKAS Accredited laboratory the same day sampling was carried out in general accordance with BS 5930 and BS 5667.

5.0 GROUND MODEL

5.1 Made Ground

Made Ground was encountered beneath the site to depths of between 2.3m and 4.0m bgl where fully penetrated in WS08, WS10, WS11, TP05 to TP07 and BH01 to BH03.

Surfacing
Different surfacing was encountered within the existing Mill courtyard and interior. WS09 to WS11 and HP01 to HP03 were surfaced by cobbles to a maximum depth of 0.2m bgl. HP04, HP06, HP09, and HP10 were surfaced by concrete to a maximum depth of 0.2m bgl. HP05, HP07, and HP08 were surfaced by chipboard and wooden planks to a maximum depth of 0.2m bgl.



Exploratory Hole Locations

Three main Made Ground populations were recorded during the investigation and are described below:

- *Dark brown, grey or black ashy variably clayey to gravelly sand with a high cobble content of brick and minor constituents of concrete, ceramics, plastic, fabric, sandstone, wood, slate, ash, tarmac, slag and glass was the main Made Ground strata encountered in the majority of locations across the site from depths between ground level and 0.15m bgl to depths between 0.1m and 3.0m bgl.*

- *Brown grey gravelly sandy clay with minor constituents of brick, concrete, sandstone and shale was encountered in BH1, BH2, WS11, HP04, HP06 and HP07 from depths between 0.2m and 3.0m bgl to depths between 0.7m and 4.0m bgl.*

- *Dark grey to black slightly sandy slightly clayey gravel of brick, concrete, metal, rubber, fabric, wood, tarmac, sandstone, and plastic was encountered in TP01, TP05, TP06, HP13 and HP13A from depths between ground level and 0.55m bgl to depths between 1.2m and 2.7m bgl.*

The following exploratory were terminated in the Made Ground:

Location	Depth (m bgl)	Reason
WS01	*0.20*	*Concrete obstruction*
WS01A	*1.20*	*SPT refusal*
WS02	*0.20*	*Sandstone obstruction*
WS02A, WS03 to WS05	*2.00*	*SPT refusal*
WS06	*0.60*	*Brick obstruction*
WS06A	*0.60*	*Concrete obstruction*
WS07	*0.80*	*Concrete obstruction*
WS07A	*1.95*	*SPT refusal*
WS09	*0.90*	*Drain*
TP01	*2.20*	*Concrete slab*
TP02	*1.80*	*Concrete slab*

5.2 Natural Ground

The natural strata encountered generally confirmed the published geological records. Two main natural stratifications were encountered during the investigation and are described below:

- *Firm becoming stiff with depth grey brown variably cobbly gravelly sandy silty Clay with minor constituents of shale, coal, and sandstone was encountered in BH1, BH2, BH3, HP02, TP05 to TP07, WS08, WS10 and WS11 from depths between 1.0m and 4.0m bgl to depths of up to 17.8m bgl.*

- *Medium dense brown variably clayey Sand was present in BH2 and WS10 from depths between 3.0m and 15.2m bgl to depths between 3.5m and 15.5m bgl.*

5.3 Bedrock

Weathered Sandstone recovered as dense to very dense brown sandy silty clayey Gravel and gravelly sandy Cobbles were observed in BH1 from 13.0m to 17.0m bgl and in BH3 from 14.0m to 15.0m bgl.

More competent bedrock was encountered in the form of very weak to weak red brown fine grained Sandstone in BH1 to BH3 from depths between 15.5m and 17.8m bgl to depths between 24.0m to 26.0m bgl where the deeper boreholes were terminated.

5.4 Groundwater

Groundwater was encountered in the following exploratory holes:

Location	Depth (m bgl)	Stratum
BH3	*20.00*	*Sandstone*
HP04	*1.20*	*Made Ground*
HP07	*1.00*	*Made Ground*
HP08	*1.20*	*Made Ground*
HP09	*1.20*	*Made Ground*
HP10	*1.00*	*Made Ground*
TP01	*1.30*	*Made Ground*
TP04	*3.00*	*Made Ground*
WS11	*3.45*	*Sandy Clay*

No groundwater was encountered in the remaining exploratory holes.

5.5 Watching Brief

A watching brief was maintained for visual and olfactory evidence of contamination.

Potential olfactory evidence of contamination in the form of an ashy organic odour was recorded at locations TP01, TP02, TP04, TP07, WS01A, WS02A, WS04, WS06, HP01, HP02, HP03, HP12, WS09, WS10 and WS11. The odours were generally faint to moderate and linked to ash and slag.

A strong odour was noted in HP11 where the material was visibly oily, this was adjacent to an existing above ground tank which is the likely source.

Visual evidence of potential contamination was recorded in the Made Ground at locations HP01 to HP03 and WS09 to WS11 in the form of ash and slag.

Anthropogenic material was generally present throughout the Made Ground soils particularly in the area of HP12 where numerous amounts of waste was present within the Made Ground which had been piled against the external mill walls.

Care was taken while removing the cobble surfacing in HP01 to HP03 and WS09 to WS11, as Brunswick Mill is a Grade II listed building. The cobbles were carefully removed and reinstated without causing damage.

5.6 Excavation/Borehole Stability

Evidence of collapse was noted in TP05 to TP07 at the based of the Made Ground at approximately 2.5m bgl, where backfill material in the form of loose bricks were encountered within the Made Ground.

TP04 also collapsed from a depth of 2.8m bgl within the Made Ground and may be associated with groundwater being encountered at 3.0m bgl.

Soil percolation testing could not be carried out in the Mid-Block area of the site due to significantly deep areas of Made Ground and collapse within the trial pits prior to reaching the natural Clay strata.

5.7 Excavation/Borehole Progress

WS01, WS02, WS06, WS06A, WS07 and WS09 terminated at depths of less than 1.0m bgl due to the presence of buried brick, concrete and sandstone cobbles. These obstructions were observed within the hand dug trial pits.

TP01 was terminated at 2.2m bgl due to the presence of a concrete slab and brick wall. TP02 was terminated at 1.8m bgl due to the presence of a concrete slab.

Buried pipes were encountered within the Made Ground in HP01, HP03 and WS09. HP01 could not be advanced beyond the pipe which was running parallel to the wall.

Built up Made Ground had to be cleared around HP11 and HP12, with the excavator, to reach original ground level before the hand pits could be commenced. Numerous buried waste material and a tree root was present in the vicinity of HP12 which prevented the footings being exposed.

A hand pit was attempted adjacent to the top of the internal archway which is present just above ground level internally. The floorboards were already removed in this location and the void associated with the archway was backfilled predominantly with fabric. The material was removed to circa 0.5m bgl but continued downwards and excavation through the fabric was not possible.

No access was available for the window sampling rig into the Corner Block in the south west of the site at the time when it was present on site. Access had to be created by lifting the gate with the JCB.

A large stockpile of crushed brick and concrete was present across the north western half of the external site area. Exploratory holes were therefore limited within the footprint of the stockpile. TP03 was excavated into the stockpile to assess the material.

An area with archaeological limitations was highlighted to Groundtech Consulting in the north eastern half of the external site area. No machine excavated trial pits were undertaken in this area as requested.

An Obstructions Plan is presented as *GRO-22462-P03*.

6.0 GROUND ENGINEERING

6.1 Geotechnical Testing Results

Comparison of water content and the value of 0.4 times the Liquid Limit in accordance with BRE Digest 412 'Desiccation in Clay Soils' suggests significant desiccation has taken place when 0.4 times the Liquid Limit is greater than the actual water measured water content. This is a rudimentary method but also a good guide.

Results of the plasticity testing and the volume change potential of the Clay is summarised in the table below:

Reference	Depth (m bgl)	Modified PI	Volume Change Potential	Desiccated
BH1	*4.50*	*33.3*	*Medium*	*Y*
BH2	*4.00*	*28.7*	*Medium*	*N*
BH3	*3.50*	*40.1*	*High*	*N*
WS10	*2.00*	*29.1*	*Medium*	*Y*
WS11	*3.00*	*29.4*	*Medium*	*N*

Quick Undrained Triaxial testing was undertaken on four samples of the undisturbed natural Clay and the results are presented in the table below:

Reference	Depth (m bgl)	Undrained Shear Strength (kPa)	Relative Strength
BH1	*4.00*	*97*	*High*
BH2	*5.00*	*49*	*Medium*
BH2	*8.00*	*95*	*High*
BH3	*11.0*	*153*	*Very High*

Unconfined Compressive Strength (UCS) testing was undertaken on three samples of the Sandstone bedrock. The results are summarised in the table below:

Reference	Depth (m bgl)	Load Failure (kN)	UCS (MPa)
BH2	*18.43 – 18.65*	*106.18*	*18.7*
BH2	*21.55 – 21.83*	*110.28*	*19.4*
BH3	*23.36 – 23.56*	*108.12*	*19.0*

6.2 Existing Foundations

Fourteen hand dug pits were undertaken at the site to target specific objectives within the existing mill building and in the exterior site. The objectives and findings of these pits are discussed below, and the cross sections are presented on Groundtech Plans *GRO-22462-P04A to P04M*.

HP01 to HP04

HP01 to HP04 were undertaken in the central courtyard of the Brunswick Mill building in order to determine the geometrics of existing foundations.

HP01 was excavated against the north western wall, a pipe was encountered at 0.45m bgl and the pit was terminated at 0.7m bgl before a footing was observed.

HP02 was excavated along the south eastern wall and reached 1.2m bgl without encountering a footing. Natural soft brown Clay was encountered at approximately 1.0m bgl beneath the Made Ground.

HP03 was excavated to 1.2m bgl on the north western wall. No footing was encountered. A pipe was also observed at 0.25m bgl, the hole was able to be progressed due to the smaller nature of the pipe. The base of the wall appeared to be present at 0.9m bgl, as excavation continued under the building with no obvious footing encountered.

HP04 was excavated on the north eastern wall to 1.2m bgl, and again, no footing was encountered. A groundwater seepage was observed at 1.2m bgl.

HP05 and HP06

HP05 and HP06 were undertaken within the mill building interior in order to determine the depths and extent of the foundation footings.

HP05 was dug in the eastern area of the building and was excavated to 1.2m bgl. No footing was encountered. Groundwater seepage was encountered at 1.0m bgl.

HP06 was excavated in the southern area of the building to a depth of 0.7m bgl, where a concrete footing was encountered which extended across the base of the pit to a minimum length of 0.6m. Further excavation of the pit was not possible due to the restricted floor space in this area.

HP07 and HP08

HP07 and HP08 were undertaken in the eastern area of the mill building interior in order to determine the geometrics of the current column foundations in this area.

HP07 was excavated to a depth of 1.2m bgl, where the top of the column foundation was encountered from 0.2m to 0.4m bgl and extended outwards from the column to a maximum length of 0.5m. A void of circa 0.15m was present beneath wooden planks overlying the footing. Made Ground was recorded beneath the concrete footing, with groundwater seepage at 1.0m bgl.

HP08 was excavated to a depth of 1.2m and a similar ground model as HP07 was encountered, with a 0.2m thick foundation being encountered from 0.15m to 0.35m bgl, extending approximately 0.5m from the base of the column. Made Ground was recorded beneath the footing, with a groundwater seepage at 1.2m bgl.

HP09 and HP10

HP09 and HP10 were undertaken within the northern area of the building interior in order to determine the depth and extent of the foundations in the areas where a proposed lift shaft will be constructed.

HP09 was excavated to a depth of 1.2m bgl, with a footing encountered at 1.0m bgl. The footing extended 0.4m from the wall and is at least 0.2m thick. Groundwater seepage was encountered at 1.2m bgl.

HP10 was dug to a depth of 1.0m bgl, with a footing encountered at 0.7m bgl. The footing extended 0.5m from the wall and is at least 0.3m thick. The pit was terminated due to a large amount of groundwater ingress at 1.0m bgl.

HP11 and HP12

HP11 and HP12 were undertaken in the external site area to the south west, against the walls of the Brunswick Mill building, in order to determine the depth and extent of the foundation footings.

HP11 was excavated to a depth of 1.2m bgl, with a footing encountered at 0.5m bgl. The footing extended 0.5m from the wall and continued to the base of the pit, meaning it is at least 0.7m thick. A second footing was encountered at 1.2m bgl which extended 0.5m from the wall. As the pit was terminated at 1.2m bgl, the full depth of the footing is unknown.

HP12 was excavated to a depth of 0.5m bgl and no footing was encountered. The presence of excess waste and a tree root against the mill wall prevented the pit from continuing further. In addition, the brickwork at this location was degraded and falling apart.

HP13 and HP13A

HP13 and HP13A were undertaken in the south west corner of the external site, and were excavated to depths of 1.2m bgl. The purpose of these trenches was to locate the presence of an LP gas main that was indicated in this area of site.

A brick wall from the former methodist chapel was located above the area of the suspected gas pipe, and a gas manhole was present in the adjacent footpath in alignment with the indicated gas pipe location. Trenches were dug either side of the wall, which extended below the ground to at least 1.2m bgl, but no gas pipe was encountered in either trench.

It is recommended to remove the wall and associated footings and excavate a trench closer to the site boundary in order to locate the gas pipe.

6.3 Assessment Background

The ground engineering investigation has been undertaken to formulate an accurate ground model in order to undertake preliminary foundation design. The ground model has been constructed with a moderate to high level of confidence.

Background

The site and the surrounding areas have had mostly industrial land uses since the mid to late 1800s. Brunswick Mill has been present since the earliest historical maps, and the India Mills building has been present until 2006 at the latest. The south west corner of the site contained terraced houses and then a methodist chapel, until the latter was partially demolished in 2018.

The proposed development comprises the construction of new build residential apartment properties including associated hardsurfacing, access roads, and limited areas of soft landscaping. Loadings associated with the proposed structures onsite are unknown at this stage and it is assumed that site levels will not alter significantly.

Enabling Works

All below ground obstructions, structures and foundations associated with the former buildings across the site should be grubbed up. The obstructions have been encountered at depths of between 0.2m and 2.2m bgl. The Made Ground will also require processing as there is a high content of anthropogenic materials.

No topsoil is present across either site areas. Vegetation and trees will require removal and chipping where they are not proposed to be retained.

Earthworks will be required to create a level platform for development in the external site where there are two distinct levels with a circa 2m change in elevation, separated by the currently existing towpath. A

retaining wall may be required along the embankment of the towpath as it is not part of the proposed development area.

Ground Model

Made Ground was encountered to a maximum depth of 4.0m bgl in BH1, generally Made Ground was deeper in the north eastern area of the site towards the current Brunswick Mill. Additionally, BH2 and BH3 recorded Made Ground to maximum depths of 3.5m and 2.5m bgl respectively, and Made Ground was not fully penetrated in the majority of locations.

The natural ground encountered generally comprised medium to very high strength Clay to a maximum depth of 17.8m bgl. Granular strata in the form of medium dense to very dense Sand, Gravel, and Cobbles was encountered locally in WS10 and BH1 to BH3 from depths between 3.0m and 15.2m bgl.

Weathered Sandstone was observed in BH1 from 13.0m to 17.0m bgl and in BH3 from 14.0m to 15.0m bgl. Recovered as very weak to weak red brown fine grained Sandstone in BH1 to BH3 from depths between 15.5m and 17.8m bgl.

Perched groundwater was encountered in the Made Ground of HP04, HP07, HP08, HP09, HP10, TP01 and TP04 at depths of between 1.0m and 3.0m bgl. Groundwater was in BH3 at 20.0m bgl in the Sandstone and in WS11 at 3.45m bgl in the sandy Clay.

Limitations

The main constraints associated with the site include the following:

- *Deep Made Ground up to 4.0m bgl.*
- *Relic structures and obstructions encountered within the trial pits, including brick walls, concrete slabs, and the partially demolished walls from the previous methodist chapel.*
- *Easement associated with the adjacent canal.*
- *Stockpiles of waste and fly tipping against the side of the external mill walls, including multiple LPG gas cannisters.*
- *Existing tank located adjacent to the existing mill on the north western boundary. This will need decommissioning and removal offsite.*
- *Incline towards the Ashton Canal towpath in the south west of the site.*
- *6F2 stockpile running adjacent to the north western site boundary.*
- *Heterogenous nature of the Made Ground.*
- *Perched groundwater.*
- *Instability in Made Ground as observed in the trial pits.*

6.4 Geotechnical Parameters

The geotechnical test results have been evaluated to derive geotechnical parameters for the soils underlying the site. A '*depth to SPT N value*' graph is presented on Groundtech Plan *GRO-22462-P05* in *Appendix 8* to provide a generalised ground model for the site.

Characterisation of the geotechnical parameters above has been undertaken to select a characteristic value, which is a cautious estimate of the value affecting the occurrence of the limit state. The characteristic values for Ultimate Limit State (ULS) conditions selected are presented in the table below:

Stratum	Parameter	Selected Characteristic Value
Medium strength Clay	*Undrained Shear strength (Cu)*	*49kPa*
High strength Clay	*Undrained Shear strength (Cu)*	*95kPa*
Very High Strength Clay	*Undrained Shear strength (Cu)*	*153kPa*
Medium dense Sand	*Drained angle of friction (ϕ')*	*32°*
Weathered Sandstone	*Drained angle of friction (ϕ')*	*38°*
Sandstone	*Unconfined Compressive Strength*	*18.7MPa*

6.5 Preliminary Foundation Design

The proposed development is for the redevelopment of Brunswick Mill into residential apartments, and the construction of two additional residential apartment blocks in the adjacent land in the south west.

The majority of exploratory holes were undertaken in the external area to the south of the mill, with the exception of HP01 to HP10, and WS09 to WS11, which were undertaken in the courtyard and interior of Brunswick Mill.

Brunswick Mill
If additional loadings are proposed for the existing mill, an assessment of the existing foundations should be undertaken to determine if they have sufficient capacity.

Bearing strata or dimensions of foundations were not determined in several of the hand excavated trial pits and further investigation may be required.

Former India Mills
In the area of the proposed new apartments, Made Ground was recorded to a maximum depth of 4.0m and was underlain by natural medium to very high strength Clay and medium dense to very dense sand, gravel and cobbles. Very weak to weak Sandstone was observed at depths of between 15.5m and 17.8m bgl.

Consideration will need to be given to obstructions that have been encountered beneath the site at depths of between 0.2m and 2.2m bgl. These will need to be grubbed up to allow foundations to be installed.

Foundations for the new apartments should be designed such that they do not undermine or surcharge any structures around that boundary of the site, including the adjacent canal wall. The development layout should also take into account any easement associated with the canal.

The proposed structure could be up to seven storeys in height if it is to be designed to match the existing mill and is expected to generate large column loads. Therefore, a traditional shallow foundation solution will not be a suitable option for the apartment block. At this stage, the loadings of the proposed structure are unknown and designs will need to be confirmed when they are available.

Loads will be transferred to the piles from ground beams, pile caps and floor slabs of the superstructure. Transverse loading on the piles and the requirement for reinforcement should be taken into consideration in the detailed design to satisfy Equilibrium Limit State conditions.

Pile Foundations
The most suitable solution for the proposed apartment development is considered to be piled foundations transferring loads through the underlying Made Ground and natural Clay and Sand strata to the very weak

Sandstone which has been encountered between 15.5m and 17.8m bgl. When permanent and variable actions are available, the utilisation factor can be confirmed or otherwise in accordance with EC7.

Driven piles are not considered an option due to the depth to and strength of the Glacial Till deposits. The most suitable type of pile for the development is considered to be Continuous Flight Auger (CFA) bored pile, this should be discussed with the preferred piling contractor. Good workmanship will be required when installing the piles to ensure the assumptions in the design by calculation are met.

Piled Solution – Design by Calculation

Preliminary design by calculation has been carried out using due skill and care using the allowable load method for pile design. The preliminary design by calculation is based on the following ground model:

- *Made Ground to 4.0m*
- *Medium to very high strength Clay to 15.2m*
- *Medium dense Sand to 15.5m*
- *Very weak Sandstone to 20m*

For a single bored pile 600mm in diameter and 20m in length end bearing in the very weak Sandstone, an allowable load of 2000kN has been calculated. If greater loads are required, the piles should be installed in groups. If piles groups are used, the compressive resistance will be the sum of the individual piles that make up the group when they are end bearing on non-compressive strata and the stability of the pile group will be governed by a single pile end bearing on bedrock. This should be considered when the site layout and loadings are confirmed.

The preliminary design for piles end bearing in a rock socket in the Sandstone calculated significant total design resistances. Checks should be undertaken to confirm the design resistances calculated by the preliminary design do not significantly exceeded the safe working loads based on the total compressive strength of the concrete pile to be provided by the structural engineer. The safe working load of the concrete pile will likely dictate the design. The number of piles in the pile group will depend on the forces acting on the piles and should be discussed with the structural engineer and piling contractor. A suitably designed pile group should be designed and constructed to support the superstructure, and basement structure if required.

The design of pile groups should include the potential impact on adjacent structures due to potential loss of ground.

The depth of rock socket has been taken as 4.5m into the residual bedrock. The extent of the socket will depend on the competency of the bedrock and consistency across the development area. The end bearing resistance will depend on the drilling technique and magnitude of disruption of the Sandstone which may reduce the base resistance.

The ground conditions and the below ground construction indicate downdrag will not be an issue and has not been taken into consideration in the preliminary design.

An appropriate working platform should be constructed in accordance with BR470 guidance.

Design Validation

The piling type, length, depth of reinforcement and design should be discussed with a specialist piling contractor. They can then undertake the detailed design including drawings and specifications to provide

fitness for purpose design. In accordance with EC7, static load testing is recommended to validate the design, static load testing may also a more efficient design to be produced. Static load testing will be required and can be undertaken on preliminary piles or more than 1% of working piles to 1.5 times the characteristic load.

The piling works should be carried out in accordance with Execution Standard EN 1536 for Bored Piles.

Construction Recommendations

The recommendations in this appraisal are preliminary and the detailed design should be developed in advance and during the construction phase. If the ground conditions or groundwater regime encountered during the construction phase differ significantly to the conditions encountered during the Ground Investigation, work should cease and Groundtech Consulting contacted for further advice.

During the construction phase, supervision by a suitably qualified geotechnical engineer should be on a continuous basis to check the design assumptions are correct and construction conforms to design in accordance with EC7. Supervision should include inspections, Control Ground Investigations and monitoring by a suitably qualified geotechnical engineer.

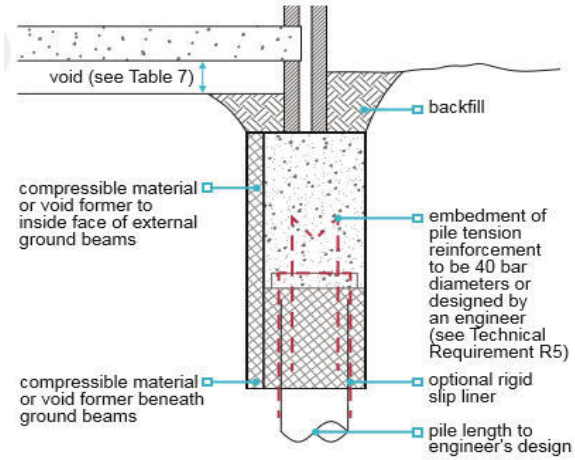
6.6 Building Near Trees

Trees and bushes are present around the site. Foundation excavations may encounter cohesive strata locally in the vicinity of existing, proposed or recently removed trees, foundations should be adjusted in full accordance with current guidance.

All foundations should be deepened below roots of greater than 5mm diameter during excavations for footings. The clay is of a low to medium volume change potential.

A survey of all trees and hedges on the site and within 30m of the site boundary should be undertaken to identify tree species, locations and heights. This information will be required in order to assess the effects of trees on the cohesive strata and inform a foundation schedule.

Where heave precautions are deemed necessary, the pile installation design will need to accommodate the following precautions in the design.



Heave precautions for pile and beam foundations

6.7 Floor Slabs

Floor slab design should take into consideration the presence of deep Made Ground to 4.0m bgl. A suspended floor slab is considered to be suitable for the proposed development that is compatible with the proposed piled foundations. The slab loadings are not available at this stage.

The clays beneath the site are of low to medium volume change potential therefore, a 100mm void should be incorporated beneath ground beams and suspended in-situ concrete ground floors, while a 250mm void should be incorporated under suspended precast concrete floors if they are utilised.

Floor slab construction should include basic radon precautions in accordance with BR 211.

6.8 Construction

The trial pits indicate that instability of excavations is anticipated during the construction phase as the sand strata encountered within the trial pits collapsed on multiple occasions and required further excavation. If excavations are subject to adverse weather conditions, this may provide further instability. Instability of the Made Ground is likely such as in TP04 to TP07 and should be considered in the groundworks method statements.

Tracked high specification plant is recommended to maintain the build programme. Breaking equipment will also be required to penetrate obstructions identified by the Ground Investigation and they are widespread given the history of the site – obstructions were encountered in WS01 to WS07, WS09, TP011 and TP02 during the Groundtech Investigation. The obstructions will have to be grubbed up during the enabling works phase. Made Ground was not fully penetrated in numerous locations on the site as shown on Obstructions Plan *GRO-22462-P03*.

Perched groundwater has been encountered in the Made Ground at a number of locations. Therefore, dewatering of excavations may be required locally and will largely depend on the proposed site levels.

6.9 Concrete Classification

Made Ground
Water soluble sulphate testing was undertaken on thirty samples of the Made Ground. The range of soluble sulphate (SO_4) recorded is 40.1mg/l to 1700.4mg/l and associated pH values ranged between 7.33 and 11.63 indicating alkaline conditions.

For a dataset containing more than ten results, the mean of the highest 20% of the water-soluble sulphate test results will be used along with the average of the lowest 20% of the pH results. For the Made Ground, the characteristic water-soluble sulphate value is 1472mg/l and the pH value is 7.63.

Natural Strata
Water soluble sulphate testing was also undertaken on five samples of the natural strata. The range of soluble sulphate (SO_4) recorded is 35.3 mg/l to 98.7 mg/l and associated pH values ranged between 7.89 and 8.79 indicating slightly alkaline conditions.

For a dataset containing five to nine results, the mean of the highest two sulphate test results will be used and the average of the lowest two of the pH results. For the natural strata, the characteristic water-soluble sulphate value is 36.9 mg/l and the pH value is 8.09.

Due to the presence of granular soils underlying the site, groundwater is considered to be mobile.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-3 and sulphate class DS-3 conditions prevail in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005. The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site-specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

There is the potential for pyritic ground conditions to be present beneath the site and testing should be undertaken to confirm this.

6.10 Highway / Pavement Design

CBR values of 2% to 5% are likely to be achieved in any shallow undisturbed natural soils for pavement design purposes, unless proven otherwise by in-situ testing at sub-base level by a specialist geotechnical engineer.

As a minimum, the subgrade should be proof rolled prior to construction. Some reengineering of the subgrade is required prior to highway construction to achieve the required design CBR value.

Untreated Made Ground should be assumed to have a CBR value of less than 2.5%, unless proven otherwise. Highways Agency document HD25 'Interim Advice Note 73/06 Revision 1' (2009) states that where a subgrade has a CBR value lower than 2.5%, it is considered unsuitable support for a pavement foundation since it would tend to deform under construction traffic and must be improved.

The soils are considered to be frost susceptible due to the fines content, and highway/pavement construction should be a minimum thickness of 450mm to mitigate the risk.

6.11 Sustainable Urban Drainage System (SuDS)

SuDS drainage is unlikely to be a feasible option at the site due to the presence of deep Made Ground and natural cohesive soils beneath the site which are capable of poor infiltration rates.

Soil percolation testing was attempted however, the sides of the excavations were unstable and natural strata was not encountered in the proposed locations.

7.0 LAND QUALITY

7.1 Geo-Environmental Testing Results - Soils

Samples of Made Ground and natural strata have been tested for a range of relevant Contaminants of Concern (CoCs). In accordance with LCRM, a Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the concentrations as derived through Geo-Environmental analysis.

The GQRA process comprises the comparison of the actual concentrations measured on site with Generic Assessment Criteria (GACs) for the protection of human health.

The GACs used for the assessment of soil concentrations have been derived using the CLEA model. The GACs used are listed below:

- *Soil Guideline Values (SGVs) which demonstrate minimal risk.*
- *LQM/CIEH S4ULs which use the same toxicological data as the SGVs but different exposure criteria.*
- *C4SLs which demonstrate low risk.*

In deriving the GACs for use on Brownfield sites, we have assumed a 1% Soil Organic Matter unless the results indicate otherwise.

The proposed end-use for the site is a residential development comprising a redevelopment of the existing mill building into apartments, as well as the construction of two additional apartment blocks in the adjacent land to the south with associated driveways, pavements, access roads, and limited areas of soft landscaping. We have therefore undertaken the GQRA on the basis that the proposed development site falls under the Residential (without Plant Uptake) land-use scenario as defined in SR3 (EA, 2009b).

The strata or sources of contamination targeted by the laboratory testing scheduled is summarised in the table below:

Strata / Source	Number Tested	Locations
Granular Made Ground (Population 1)	*26*	*HP01, HP02, HP03, HP05, HP09, HP10, HP11, HP12, HP13, TP01, TP02, TP03, TP04, TP05, TP06, TP07, WS01A, WS02A, WS04, WS06, WS07A, WS08, WS09, WS10, BH1, BH3*
Cohesive Made Ground (Population 2)	*4*	*HP06, HP07, WS11, BH2*
Natural Clay (Population 3)	*2*	*TP06, WS08*
Former Mills	*32*	*All*
Former Tank	*1*	*HP11*

A summary of the Geo-Environmental Testing results is presented below and the GQRA Screening Values are presented in *Appendix 9*:

Metals				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Arsenic	*7.4 – 71.9*	*40*	*3*	*HP02 at 0.5m* *HP11 at 0.5m* *WS09 at 0.5m*
Cadmium	*<0.1 – 5.5*	*85*	*0*	-
Chromium	*26.0 – 84.1*	*910*	*0*	-
Hexavalent Chromium	*<0.3*	*21*	*0*	-
Copper	*19 – 1477*	*7100*	*0*	-
Lead	*14 – 3285*	*310*	*7*	*HP11 at 0.5m* *TP01 at 1.0m* *TP02 at 0.5m* *TP05 at 1.0m* *TP06 at 0.5m* *WS06 at 0.5m* *WS07A at 1.0m*
Mercury	*<0.1 – 1.2*	*1.2*	*0*	-
Nickel	*9.4 – 65.4*	*180*	*0*	-
Selenium	*<1.0 – 2.0*	*430*	*0*	-
Zinc	*54 – 438*	*40000*	*0*	-
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Naphthalene	*<0.04 – 26.86*	*2.3*	*3*	*HP03 at 0.5m* *HP11 at 0.5m* *TP01 at 1.0m*
Acenaphthylene	*<0.03 – 9.21*	*2900*	*0*	-
Acenaphthene	*<0.05 – 54.06*	*3000*	*0*	-
Fluorene	*<0.04 – 33.12*	*2800*	*0*	-
Phenanthrene	*<0.03 – 274.34*	*1300*	*0*	-
Anthracene	*<0.04 – 71.85*	*31000*	*0*	-
Fluoranthene	*<0.03 – 291.31*	*1500*	*0*	-
Pyrene	*<0.03 – 250.97*	*3700*	*0*	-
Benzo(a)anthracene	*<0.06 – 112.94*	*11*	*4*	*HP03 at 0.5m* *TP01 at 1.0m* *WS08 at 0.5m* *WS09 at 0.5m*
Chrysene	*<0.02 – 110.74*	*30*	*2*	*HP03 at 0.5m* *TP01 at 1.0m*
Benzo(b)fluoranthene	*<0.05 – 119.86*	*3.9*	*8*	*HP03 at 0.5m* *HP10 at 0.5m* *TP01 at 1.0m* *TP02 at 0.5m* *TP07 at 1.0m* *WS08 at 0.5m* *WS09 at 0.5m* *BH3 at 1.0m*
Benzo(k)fluoranthene	*<0.02 – 46.61*	*110*	*0*	-
Benzo(a)pyrene	*<0.04 – 107.79*	*3.2*	*8*	*HP03 at 0.5m*

				HP10 at 0.5m TP01 at 1.0m TP02 at 0.5m TP07 at 1.0m WS08 at 0.5m WS09 at 0.5m BH3 at 1.0m
Indeno(123cd)pyrene	<0.04 – 61.48	45	2	HP03 at 0.5m TP01 at 1.0m
Dibenzo(ah)anthracene	<0.04 – 12.07	0.31	8	HP03 at 0.5m HP10 at 0.5m TP01 at 1.0m TP02 at 0.5m TP07 at 1.0m WS08 at 0.5m WS09 at 0.5m BH3 at 1.0m
Benzo(ghi)perylene	<0.04 – 64.20	360	0	-
TPH CWG – Aliphatics				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
>C5-C6	<0.1	42	0	-
>C6-C8	<0.1	100	0	-
>C8-C10	<0.1 – 0.3	27	0	-
>C10-C12	1.3 – 185.1	130	1	HP11 at 0.5m
>C12-C16	<4.0 – 2910	1100	1	HP11 at 0.5m
>C16-C35	<7.0 – 4354	65000	0	-
Total aliphatics C5-35	<19 – 10412	-	-	-
TPH CWG - Aromatics				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
>C5-EC7	<0.1	370	-	-
>EC7-EC8	<0.1	860	-	-
>EC8-EC10	<0.1	47	-	-
>EC10-EC12	<0.2 – 124.7	250	-	-
>EC12-EC16	<4.0 – 3531	1800	1	HP11 at 0.5m
>EC16-EC21	<7.0 – 6909	1900	1	HP11 at 0.5m
>EC21-EC35	<7.0 – 3542	1900	1	HP11 at 0.5m
Total aromatics C5-35	<19 – 15907	-	-	-
Total aliphatics and aromatics(C5-35)	<38 – 26319	-	-	-
MTBE	<0.005	49	0	-
Benzene	<0.005	0.38	0	-
Toluene	<0.005	880	0	-
Ethylbenzene	<0.005 – 0.007	83	0	-
m/p-Xylene	<0.005 – 0.013	82	0	-
o-Xylene	<0.005 – 0.007	88	0	-
Others				
Moisture Content: 9.4% – 35.7%				

pH: 7.33 – 11.63				
Organic Matter: 1.3% – 25.9%				
Asbestos Screen				
Position	Depth (m bgl)	Result	Asbestos Type	Quantification (mass%)
HP01	*0.50*	*None Detected*	*n/a*	*n/a*
HP02	*0.50*	*None Detected*	*n/a*	*n/a*
HP03	*0.50*	*None Detected*	*n/a*	*n/a*
HP05	*0.50*	*None Detected*	*n/a*	*n/a*
HP06	*0.50*	*None Detected*	*n/a*	*n/a*
HP07	*0.50*	*None Detected*	*n/a*	*n/a*
HP09	*0.50*	*None Detected*	*n/a*	*n/a*
HP10	*0.50*	*None Detected*	*n/a*	*n/a*
HP11	*0.50*	*Chrysotile*	*Cement*	*0.57*
HP12	*0.50*	*None Detected*	*n/a*	*n/a*
HP13	*0.50*	*None Detected*	*n/a*	*n/a*
TP01	*1.00*	*None Detected*	*n/a*	*n/a*
TP02	*0.50*	*None Detected*	*n/a*	*n/a*
TP03	*1.00*	*None Detected*	*n/a*	*n/a*
TP04	*2.00*	*None Detected*	*n/a*	*n/a*
TP05	*1.00*	*None Detected*	*n/a*	*n/a*
TP06	*0.50*	*None Detected*	*n/a*	*n/a*
TP06	*2.70*	*None Detected*	*n/a*	*n/a*
TP07	*1.00*	*Amosite*	*Fibre bundles*	*0.002*
WS01A	*1.00*	*None Detected*	*n/a*	*n/a*
WS02	*0.50*	*None Detected*	*n/a*	*n/a*
WS04	*0.50*	*None Detected*	*n/a*	*n/a*
WS06	*0.50*	*None Detected*	*n/a*	*n/a*
WS07A	*1.00*	*None Detected*	*n/a*	*n/a*
WS08	*0.50*	*None Detected*	*n/a*	*n/a*
WS08	*2.50*	*None Detected*	*n/a*	*n/a*
WS09	*0.50*	*None Detected*	*n/a*	*n/a*
WS10	*1.20*	*None Detected*	*n/a*	*n/a*
WS11	*1.50*	*None Detected*	*n/a*	*n/a*
BH1	*0.50*	*None Detected*	*n/a*	*n/a*
BH2	*2.00*	*None Detected*	*n/a*	*n/a*
BH3	*1.00*	*None Detected*	*n/a*	*n/a*

Generally, all of the VOCs were recorded at concentrations below the laboratory limits of detections with the exception of the following:

- *Chloromethane*
- *Toluene*
- *1,3,5-Trimethylbenzene*
- *1,2,4-Trimethylbenzene*
- *4-Isopropyltoluene*

In addition, the following SVOCs were recorded above the laboratory limits of detection:

- *Carbazole*
- *Dibenzofuran*
- *2-Methylnaphthalene*
- *Bis(2-ethylhexyl) phthalate*
- *Di-n-butyl phthalate*
- *2-Methylphenol*
- *2,4-Dimethylphenol*
- *4-Methylphenol*

7.2 Generic Quantitative Risk Assessment - Soils

Made Ground has been encountered beneath the entire site to a maximum depth of 4.0m bgl during the investigation and the Made Ground soils are predominantly granular with cohesive soils encountered locally.

Ash and slag was observed in The Made Ground soils.

Olfactory evidence of contamination was noted in the Made Ground soils in the form of a faint to strong hydrocarbon odour – this is potentially attributed to the ash and slag content of the Made Ground as well as fuel derived hydrocarbons in the area of the former tank. A strong odour was noted in HP11 where the Made Ground was visibly oily, this was adjacent to an existing above ground tank which is the likely source.

A Contamination Plan is included as *GRO-22462-P06.*

Metals
Elevated levels of arsenic and lead have been detected in samples of granular Made Ground taken from HP02, HP11, TP01, TP02, TP05, TP06, WS06 and WS07A at depths between 0.5m and 1.0m bgl.

Elevated arsenic concentrations were between 43.7 mg/kg and 71.9 mg/kg when compared to the screening value of 40mg/kg. The elevated concentrations of arsenic were recorded around the existing mill building.

Lead was elevated at concentrations were between 319mg/kg and 3285mg/kg in seven locations to the south west of the existing mill at depths between 0.5m and 1.0m bgl, the screening value is 310mg/kg.

The likely source of the elevated arsenic and lead in the granular Made Ground is the former use of the site as a mill and finishing works and could also be linked to dyes used in the textile process. Other sources may include the ash content and traces of hydrocarbons within the shallow Made Ground soils.

Polycyclic Aromatic Hydrocarbons (PAHs)
Several PAHs were recorded above the screening values in the Made Ground in the granular Made Ground soils encountered in HP03, HP10, HP11, TP01, TP02, TP07, WS08, WS09 and BH3 from depths between 0.5m and 1.0m bgl. The contamination has been identified around the existing mill building and also in the land to the south west of the mill, and is considered to be widespread throughout the site.

The elevated PAHs include naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(123cd)pyrene, and dibenzo(ah)anthracene.

The site has historically been used as a mill, which included a chimney. Ash and slag are present within the Made Ground which is the likely source of the elevated speciated PAHs.

The elevated concentrations of Naphthalene are also above the vapour saturation limit based on a S4UL inhalation pathway, Naphthalene is semi-volatile and likely associated with former processes and the slag/ash content in the Made Ground.

Total Petroleum Hydrocarbons (TPH CWG)
A hydrocarbon odour has been detected in HP11 in the vicinity of the former fuel tank. In addition, visual evidence of contamination was noted in HP11, HP12 and TP01 where an oily coating was noted in the Made Ground soils.

Generally, the source of these odours is likely to be the former use of the site as a mill and in the area of HP11, the source will have been from a former above ground fuel storage tank.

Geo-environmental testing has only recorded elevated concentrations of TPH CWG in HP11 at 0.5m bgl which was excavated adjacent to the former fuel storage tank. Interpretation of the hydrocarbon results from this sample indicate that it is linked to degraded diesel, possible lubricating oil and possible tarmac/bitumen.

Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs)
Through the laboratory testing, the majority of the VOCs and SVOCs have been encountered below laboratory limits of detection. However, a number of compounds were recorded above laboratory limits of detection however, none were elevated where screening values are available.

Many of the compounds recorded above the laboratory detection limits, including phenolic and phthalate compounds, are used in coal tar, dyes, solvents, paints, glue, adhesive and insecticide which are all linked to the former use of the site as a mill. The presence of slag is also a major contributor to the presence of the contaminants encountered beneath the site.

Asbestos
Asbestos was generally not identified within the samples of Made Ground that were screened. Chrysotile cement has been detected in HP11 at 0.5m bgl at a concentration of 0.57mass%, and fibre bundles of Amosite have been detected in TP07 at 1.0m bgl at a concentration of 0.002mass%.

The asbestos was detected in the granular Made Ground soils to the south west of the mill building. The source of asbestos will be the demolished buildings that were located on the site, testing indicates that the presence of asbestos is not widespread.

Previous Ground Investigation
Previous investigation works carried out by LK Consulting found similar Contaminants of Concern within the Made Ground soils.

Stockpiles
A number of stockpiles of soil are present across the southern part of the site. TP03 was tested and no elevated Contaminants of Concern were noted.

Additional testing is recommended if the material is to reused or disposed of.

7.3 Geo-Environmental Testing Results - Groundwater

Two samples of groundwater were taken from BH1 and BH3 and were tested for a similar suite of Contaminants of Concern as the soils and the results compared with reference to a selection of guidance

documents as detailed at the rear of this report. The groundwater was taken from the strikes within the natural Sandstone.

The implementation of the Water Framework Directive (WFD) is to protect and enhance the quality of groundwater and groundwater-dependent ecosystems. The objective of the WFD requires all groundwater bodies (GWBs) are of 'good' status in terms of water quality. This status is based on thresholds for the chemical constituents of groundwater and their impact on ecosystems. Preventing pollution is by far the most sustainable and cost-effective way of maintaining good groundwater quality. The EA are committed to the 'prevent or limit' approach reflected in EU and domestic legislation.

Priority is under the Water Framework Directive to protect water supplies intended for human consumption and ensure protection of groundwater quality that supplies dependent ecosystems. After first guidance in 1992 the following significant guidance has been introduced:

- *Water Framework Directive (2000/60/EC) and the Water Act 2003.*
- *The State of Groundwater in England and Wales 2006.*
- *Second phase of the environmental permitting regime in 2010 replacing the Groundwater Regulations (1999, 2009).*
- *Groundwater Daughter Directive.*

Pollutants can be divided into those that break down easily (degradable pollutants) and those that do not (non-degradable pollutants). The Water Framework Directive introduced the concept of 'hazardous substances' and 'non-hazardous pollutants', which replaced the previous List I and List II of substances considered to pose the greatest threat to the environment.

- *Hazardous substances* are the most toxic and must be prevented from entering groundwater. Substances in this list may be disposed of to the ground, under a permit, but must not reach groundwater. They include pesticides, sheep dip, solvents, hydrocarbons, mercury, cadmium and cyanide.

- *Non-hazardous pollutants* are less dangerous and can be discharged to groundwater under a permit but must not cause pollution. Examples include sewage, trade effluent and most wastes. Non-hazardous pollutants include any substance capable of causing pollution and the list is much wider than the previous List II of substances. For example, nitrate is now a non-hazardous pollutant whereas before it was not a List II substance.

Polluting substances in groundwater can occur as a gas (gaseous phase) or dissolved in water (aqueous phase), or as a non-aqueous phase liquid (NAPL). Some pollutants include substances that dissolve readily in water. These are said to have high solubility; an example is MTBE. Substances that have low solubility (such as oil) are referred to as non-aqueous phase liquids (NAPLs). NAPLs behave differently in groundwater depending on whether they are lighter or heavier than water. Light non-aqueous phase liquids (LNAPLs) may float on the water table whereas dense non-aqueous phase liquids (DNAPLs) may sink through the aquifer until they reach an impermeable layer. They may then generate plumes of contamination. In both cases, the slowly dissolving pollutant may form a plume of dissolved contamination which moves with the groundwater flow.

A table summarising the groundwater testing results is presented below:

Metals				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Dissolved Arsenic	*<2.5 – 2.7*	*50*	-	-
Dissolved Cadmium	*<0.5 – 0.5*	*0.08 - 0.25*	-	-
Dissolved Chromium	*<1.5*	*4.7*	-	-
Hexavalent Chromium	*<0.006*	*3.4*	-	-
Dissolved Copper	*<7*	*10*	-	-
Dissolved Lead	*<5*	*7.2*	-	-
Dissolved Mercury	*<1*	*1*	-	-
Dissolved Nickel	*10*	*4*	*2*	*BH01 and BH03*
Dissolved Selenium	*<3*	*10**	-	-
Dissolved Zinc	*5 - 14562*	*75*	*1*	*BH03*
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Naphthalene	*<0.1*	*2*	-	-
Benzo(a)pyrene	*0.402*	*0.00017*	*1*	*BH01*
Indeno(123cd)pyrene	*0.233*	*0.00017*	*1*	*BH01*
Benzo(ghi)perylene	*0.259*	*0.00017*	*1*	*BH01*
Benzo(b)fluoranthene	*0.505*	*0.00017*	*1*	*BH01*
Benzo(k)fluoranthene	*0.197*	*0.00017*	*1*	*BH01*
TPH CWG – Aliphatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-C6	*<10*	*15,000*	-	-
>C6-C8	*<10*	*15,000*	-	-
>C8-C10	*<10*	*300*	-	-
>C10-C12	*<5*	*300*	-	-
>C12-C16	*<10*	*300*	-	-
>C16-C35	*940*	-	-	-
Total aliphatics C5-35	*<10*	-	-	-
TPH CWG - Aromatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-EC7	*<10*	-	-	-
>EC7-EC8	*<10*	-	-	-
>EC8-EC10	*<10*	-	-	-
>EC10-EC12	*<5*	*90*	-	-
>EC12-EC16	*<10*	*90*	-	-
>EC16-EC21	*<10*	*90*	-	-
>EC21-EC35	*<10*	*90*	-	-
Total aromatics C5-35	*<10*	-	-	-
Total aliphatics and aromatics(C5-35)	*<10*	-	-	-

MTBE	*<0.1*	*2600*	-	-
Benzene	*<0.5*	*10*	-	-
Toluene	*<5*	*50*	-	-
Ethylbenzene	*<1*	*20*	-	-
m/p-Xylene	*<2*	*30*	-	-
o-Xylene	*<1*	*30*	-	-
Others				
Total Hardness	*198 – 480mg/l*			

All of the VOCs tested for were recorded at concentrations below the laboratory limits of detection.

Minor concentrations of the 2,4-Dichlorophenol and 1,2-Dichlorobenzene (SVOCs) were recorded above the laboratory limits of detection in the two groundwater samples that were tested.

7.4 Generic Quantitative Risk Assessment - Groundwater

Strata underlying the site comprised Made Ground soils to a maximum depth of 4.0m bgl over Glacial Till consisting of firm to stiff Clay with bands of sand and gravel which in turn overlies Sandstone bedrock deposits encountered at depths of between 15.5m and 17.8m bgl.

Groundwater was encountered within natural bedrock deposits at a depth of 20.0m bgl. The site is not within a Source Protection Zone.

The superficial bedrock deposits have been classified as a Secondary Undifferentiated Aquifer and the bedrock deposits have been classified as a Secondary A Aquifer.

The installations were installed within the rotary boreholes to target the groundwater encountered during the Ground Investigation. These locations were installed to obtain water samples to determine if the potential onsite sources identified in the Preliminary Risk Assessment and the Ground Investigation have migrated to the underlying groundwater.

The contaminants tested for have been compared to EQS screening levels. The nearest named surface water body is the Ashton Canal located to the immediate south east. Generally, all of the Contaminants of Concern which includes metals and TPHs have been recorded at concentrations below the relevant EQS screening values.

Slightly elevated concentrations of nickel were recorded in BH01 and BH03 and zinc was significantly elevated in BH03. Speciated PAHs were elevated in BH01 when compared against the stringent PAH screening values.

Historically, the site has been used as a mill. In addition, there are a number of offsite sources that could potentially impact the underlying groundwater at the site and include other mills, boiler works, engineering works, glass works, gas works, chemical works, landfills and printing works. The minor elevations of PAHs encountered within the groundwater of BH01 are not considered to be related to the elevated concentrations of PAHs recorded in the Made Ground soils as a significant thickness of natural Clay of between 14m and 17m is present beneath the site acting as an aquitard and protecting the underlying groundwater in the underlying Sandstone. In addition, no elevated concentrations of nickel or zinc were recorded in the Made Ground soils beneath the site.

There was a minor oily sheen present on some of the Made Ground soils however, no evidence of contamination was present within the underlying groundwater samples obtained from the site.

The deeper groundwater table is at circa 20m below ground level and is not considered to be in hydraulic continuity or providing base flow to the Ashton Canal.

Naphthalene is an indicator of potential contamination as it is associated with the slag contamination identified at the site. Within the groundwater testing, naphthalene has been encountered at levels below the laboratory limit of detection which is a good indication that potential contamination from slag has not impacted the underlying groundwater.

The groundwater testing results have proven that the underlying groundwaters have not been impacted by the sources of contamination identified at the site.

7.5 Permanent Ground Gases

Two gas monitoring visits have been carried out between the dates of 13th June and 19th June 2023.

A maximum carbon dioxide concentration of 9.2% v/v was recorded in WS05 on the second monitoring visit. Carbon dioxide was also above 5% v/v in BH1 during both monitoring visits. In the other standpipes, carbon dioxide was recorded at a maximum level of 3.4% v/v.

No methane has been detected in the standpipes and a depleted oxygen level of 0.8% v/v was encountered in BH01 on the first visit.

A positive gas flow rate of 6.3 l/hr was detected in BH1 during the first monitoring visit, which was completed during a period of steady barometric pressure.

The atmospheric pressure ranged between 1000mb and 1008mb during both visits which were carried during periods of steady barometric pressure.

Groundwater was recorded in the deeper standpipes installed in BH1 to BH3 at depths of between 17.26m and 18.73m bgl. Groundwater was also present in WS08 during the second monitoring visit at a depth of 2.31m bgl.

Characterisation of the Gas Screening Value (GSV)

Based upon the results recorded, in accordance with CIRIA Report C665, the risk to the site from ground gases has been assessed by converting the results to gas screening values (GSVs), calculated by multiplying the typical maximum gas concentrations with the recorded maximum positive flow rates. In addition, individual "hazardous gas flow rates" (Qhg) have been derived for each monitoring point.

GSV (l/hr) = max borehole flow rate (l/hr) x max gas concentration (%)

For this assessment, the maximum recorded concentration of carbon dioxide of 9.2% v/v has been used. As a positive gas flow rate has been detected, a value of 6.3 l/hr has been adopted to calculate the GSV.

As no methane was detected, a GSV for methane cannot be calculated.

Carbon Dioxide GSV = 0.092 (9.2%) x 6.3 = 0.5796 l/hr

In order to assess the ground gas regime beneath the site and the need to incorporate ground gas precautions, guidance was taken from CIRIA C665 'Assessing risks posed by hazardous ground gases to buildings'. Based on the site being developed with residential apartments, the Wilson and Card method has been used to carry out the assessment.

When considering the results in accordance with CIRIA C665 (Section A Development and Table 8.5 – Modified Wilson and Card Classification) it can be seen that the GSV value for carbon dioxide is are below the assessment GSV of less than 0.7 l/hr and based on the GSV the site falls within Characteristic Situation 2.

Characteristic Situation 2

In accordance with CIRIA C665 and the site being placed in CS2, gas protection measures will be required comprising the following:

- *Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200 gauge DPM and underfloor venting.*
- *Beam and block or pre-cast concrete and 2000 gauge DPM/reinforced gas membrane and underfloor venting.*

All joints and penetrations sealed.

The proposed development is classified as a Building Type A in accordance with BS 8485:2015. The site falls into CS2 in accordance with Table 2 of the above guidance and 3.5 points of protection will be required comprising a combination of the following:

Structural Barrier / Floor Slab

- *Cast in situ monolithic reinforced ground bearing raft or reinforced cast in situ suspended floor slab with minimal penetrations – 1.5 points.*

Ventilation Protection Measures

- *Passive sub floor dispersal layer of good performance – 1.5 points.*

Gas Resistant Membrane

- *Gas resistant membrane (including carbon dioxide) meeting the criteria outlined in Table 7 of BS 8485:2015 – 2 points.*

Radon
The site is indicated to be situated in an area requiring basic radon precautions within foundations.

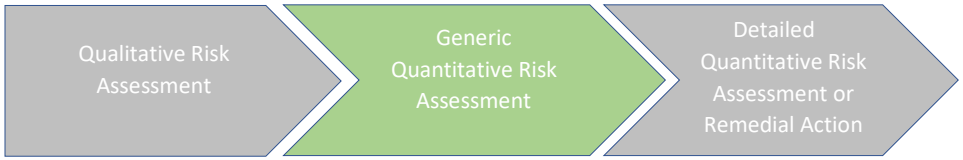
Volatile Vapours

The geo-environmental testing has recorded high concentrations of PAHs across the site and also localised areas of hydrocarbons. Naphthalene has been recorded significantly above the vapour saturation limit of the Made Ground in HP03, HP11 and TP01. It is recommended that a vapour resistant membrane is included within the proposed commercial units as source removal will be difficult as the PAH contamination is widespread and the Made Ground soils are similar in nature. Alternatively vapour intrusion modelling can be undertaken to determine if the requirements for a vapour resistant membrane can be removed.

7.6 Revised Pollution Linkage Assessment

A pollution linkage assessment has been undertaken based on the results of the Ground Investigation and the testing in accordance with LCRM and CIRIA C552 to identify any realistic pollution linkages in order to quantify the risks to human health and controlled waters. An Illustrative CSM is presented as Plan No. *GRO-22462-P06* and the risk classification has been estimated in accordance with the CIRIA C552 assessment criteria outlined in *Appendix 10.*

Human Health Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process - **the Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

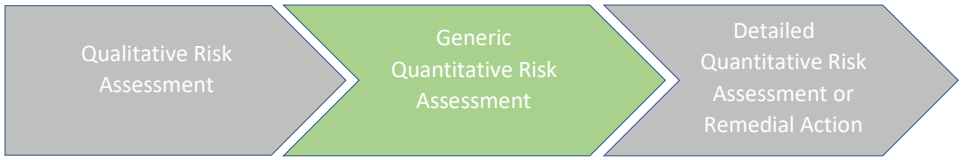
Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Likely	Medium	Moderate	*Pollution Linkage 1 refers to proposed site users coming into contact with contaminated soils on the site.* *The site currently consists of Brunswick Mill in the north east, and land formerly containing India Mills and a methodist chapel in the south west.* *Made Ground has been encountered in all exploratory holes to a maximum depth of 4.0m bgl, and generally comprised ashy variably gravelly clayey sand with a high cobble content of brick and minor constituents of concrete, ceramics, plastic, fabric, sandstone, wood, slate, ash, tarmac, slag and glass.* *Based on the site being developed with apartments, elevated concentrations of arsenic, lead, PAHs and TPH CWG have been recorded.* *Additionally, asbestos was detected within two of the screened samples in the Made Ground soils at a maximum concentration of 0.57mass%. The combined hazard,*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
						exposure and receptor ranking in accordance with the Joint Industry Working Group is Low. *The proposed development is for refurbishing the existing mill into residential apartments, as well as the construction of two new apartment blocks on the adjacent land to the south west which will include areas of soft landscaping. An asbestos survey of the existing mill will be required.* *Where hardsurfacing or the proposed buildings are present, there is not considered to be a risk as the surfacing will break the pathway to potentially contaminated soils. However, as significant elevations of CoCs have been recorded, a pollution linkage is considered to exist in the areas of soft landscaping.*
PL2	Contaminated Soils	Inhalation of vapour.	Low Likelihood to Likely	Medium to Severe	Moderate to High	*This pollution linkage refers to volatile vapours migrating into confined spaces within the proposed development. Potential sources of volatile contamination were identified through the PRA with former mills and a tank being present onsite.* *Significantly elevated concentrations of PAHs have been recorded across the majority of the site including naphthalene which is considered to be a semi-volatile substance which has been encountered above vapour saturation limits.* *As a potential source of volatile contamination has been encountered, a pollution linkage has been identified.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely to Low Likelihood	Medium	Moderate to Low	*Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users. Potential sources of mobile contamination have been identified through the PRA including the former mills. Residential properties are located close to the northern site boundary and there is potential for migration of mobile contamination off site from the tank which was located close to the northern boundary.* *Significant mobile contamination has not been identified through the ground investigation and lateral migration may have been restricted by the superficial Glacial Till deposits.* *A minor pollution linkage is currently considered to exist.*
PL4	Contaminated Soils	Attacking potable water supply pipe.	Likely	Medium	Moderate to High	*Pollution Linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply. Made Ground has been encountered to 4.0m bgl and is present at installation depth.* *Made Ground has been identified as being contaminated with a range of Contaminants of Concern including organics associated with the former tank and Mills.* *Potable water supply pipes will be included as part of the development and a local water company risk assessment should be carried out prior to construction to advise on the level of protection required for the potable water supply.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Likely	Medium to Severe	Moderate to High	*Deep Made Ground was encountered beneath the sites up to a maximum depth of 4.0m bgl during the investigation.* *Interim gas monitoring results currently place the site into CS2 and gas protection measures will be required. This will be confirmed upon completion of the monitoring.* *The site is also located in an area requiring basic radon precautions within foundations. In addition, allowance should be made for the membrane to be resistant to vapours as well.* *Therefore, a pollution linkage has been identified.*

Controlled Waters Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process – **Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely to Low Likelihood	Medium	Moderate to Low	*Made Ground has been encountered to a maximum depth of 4.0m bgl and generally comprised dark brown, grey or black ashy variably clayey to gravelly sand, with localised areas of brown grey gravelly sandy clay and dark grey to black slightly sandy slightly clayey gravel. Visual evidence of contamination was recorded in the form of ash and slag in the Made Ground soils, as well as an oily coating in the Made Ground of HP11 which was dug close to an above ground fuel storage tank. Olfactory evidence of contamination was noted in the Made Ground across the site and was generally linked to an ashy organic odour. A hydrocarbon odour was noted in the soils from around the former fuel storage tank adjacent to WS11.* *Geological maps indicate that the site is underlain by superficial Glacial Till (Secondary (Undifferentiated Aquifer) and the bedrock is the Etruria Formation (Secondary A Aquifer). A significant Clay aquitard was encountered during the investigation.* *Groundwater testing has indicated that slightly elevated concentrations of Nickel and PAHs have been encountered and a significantly elevated concentration of zinc was recorded.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
						However, the Made Ground beneath the site is underlain by a significant thickness of natural Clay which will have acted as an aquitard protecting the underlying Secondary A Aquifer. *Historically, the site has been surrounded by numerous industrial uses and therefore it is likely that groundwater contamination is indicative of the general area and is not related to the presence of mills on the subject site.* *As a minimum, any free-phase contamination identified beneath the site will need to be remove to prevent it from entering the groundwater.* *The site will be predominantly covered with hardsurfacing and a new drainage system installed which will restrict the infiltration of water through the underlying soils.* *The risk to groundwater from contaminated soils is considered Moderate to Low. Laboratory testing has been undertaken on samples of groundwater obtained from the site and the only significantly elevated contaminant was zinc, however a source has not been identified onsite. A second round of groundwater testing is recommended for EA compliance.*
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Unlikely	Medium	Low	*Pollution Linkage 7 refers to the impaction of the Ashton Canal from contaminated soils and groundwater.* *The canal is a closed system and will not be affected by any contamination on the subject site. In addition, the canal will not be in hydraulic continuity with the groundwater as it is present within the sandstone bedrock at circa 20m bgl.* *A pollution linkage is not considered to exist.*

7.7 Outline Remedial Strategy

Soils

Historically, the site has been occupied by former Mills. Made Ground has been encountered beneath the entire site to depths of up to 4.0m bgl. Visual and olfactory evidence of contamination has been encountered across much of the site and geo-environmental testing has recorded elevated concentrations of arsenic, lead, PAHs and TPH CWG. In addition, asbestos was detected in two samples screened at a maximum concentration of 0.57mass%.

The development will be largely covered with hardsurfacing or the proposed residential properties, effectively acting as a cover system which would break the pathway to the underlying contaminated soils. Where soft landscaped areas are proposed, it is recommended that a clean cover layer is installed to mitigate the risk from metals, speciated PAHs, TPH and asbestos.

A 600mm thick, clean cover system overlying a contamination warning membrane or a 100mm hard dig layer will be required in any areas of soft landscaping.

The imported topsoil and subsoil used in the cover system will need to be tested to ensure it is suitably clean for the proposed residential without plant uptake end use. In addition, the depth of cover placed will also need to be validated.

Above Ground Storage Tanks

Elevated concentrations of hydrocarbons have been recorded in HP11 in the area of a former above ground fuel storage tank. These soils will need to be excavated out and removed off site. If any free phase hydrocarbon contamination is identified, this will also need to removed and the resulting excavation will need to be validated to ensure that the soils remaining onsite are suitably clean for the proposed residential end use.

The above ground fuel storage tank will need to be decommissioned in accordance with current guidance and removed offsite in an appropriate manner.

Controlled Waters

Significant contamination has not been encountered within the underlying groundwater beneath the site with the exception of a significantly elevated concentration of zinc being recorded in BH3. An onsite source of zinc has not been identified and is likely to be associated with an offsite source. At this stage, no further action is required in regard to controlled waters, a further monitoring visit is recommended to satisfy the EA subject to findings.

Ground Gas

Interim gas monitoring has indicated that the site falls into CS2 conditions and gas protection measures will be required with regards to ground gases. This will be confirmed on completion of the monitoring.

The site is located in an area requiring basic radon precautions.

In addition, due to the vapour risk generated from the presence of naphthalene contamination at the site, a vapour resistant membrane will also be required unless modelling determines a membrane is not required.

Further Investigation

Further environmental testing of the 6F2 stockpile on site should be undertaken if it is wished to be utilised as a piling mat during the construction works. Testing to date indicates no elevated Contaminants of Concern.

Obstructions as part of the historic land use, such as the brick walls and concrete slab structures, will require grubbing up as part of the enabling works.

Waste and Fly Tipped Material

Care should be taken when removing the waste and fly tipped material as several LPG gas cannisters have been identified. Further dangerous objects may also be present.

Watching Brief and Regulatory Compliance

A watching brief should be in place during ground works and construction. If previously unidentified contamination is encountered, work should cease in that area and Groundtech Consulting contacted for advice.

Regulatory compliance should be obtained pre-commencement to avoid delays during the construction phase which will have cost implications.

7.8 Asbestos in Soils

Asbestos has been encountered in only two of the thirty-two samples that were screen in HP11 at 0.5m and TP07 at 1.0m bgl within the granular Made Ground in the form of Chrysotile cement and Amosite fibre bundles respectively. The asbestos quantification results indicate the Chrysotile mass is 0.57%. and the Amosite mass is 0.002%. It is recommended that where possible, the asbestos impacted soils remain undisturbed. The cover system implemented in the soft landscaped areas of the proposed development will break the pollution linkage to this material.

Where soils will be disturbed as part of the ground works, in accordance with the Joint Industry Working Group (JIWG) decision support tool for CAR2012 work categories, the combined hazard and exposure ranking is *Low* for the asbestos detected at trace levels. The work is classified as non-licenced, and CAR does not apply. RPE, dust suppression and decontamination are not required.

The JIWG tables are presented in *Appendix 11*. This should be used as an aid to classify risk and recommend the level of protection required, the final decision on how asbestos within the soils should be managed should be made by the contractor.

7.9 Health and Safety - Construction and Ground Workers

During the reclamation and construction phases of the site development it will be necessary to protect the health and safety of site personnel. The risk to construction and ground workers is assessed in the table below:

PL Ref	Potential Source	Pollution Linkage	Likelihood	Severity	Level of Risk
PL8	*Made Ground Soils*	*Ingestion, direct contact, inhalation of dusts.*	*Likely*	*Medium*	***Moderate to High***
PL8	*Asbestos*	*Ingestion, direct contact, inhalation of dusts.*	*Likely*	*Medium to High*	***Moderate to High***

Elevated concentrations of metals, PAHs and TPH CWG have been recorded across much of the site in the underlying Made Ground soils. In addition, asbestos has been detected at two locations in the granular Made Ground. The risk to ground workers should be communicated through a site induction and through information on noticeboards.

General guidance on these matters is given in the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Redevelopment of Contaminated Land". In summary, the following measures are suggested to provide a minimum level of protection:

- *All ground workers should be issued with the relevant protective clothing, footwear and gloves. These protective items should not be removed from the site and personnel should be instructed as to why and how they are to be used.*
- *Hand-washing and boot-washing facilities should be provided.*
- *Care should be taken to minimise the potential for off-site migration of contamination by the provision of dust suppression control and wheel cleaning equipment during the construction works.*
- *Good practices relating to personal hygiene should be adopted on the site.*
- *The contractor shall satisfy the Health and Safety Executive with regard to any other matters concerning the health, safety and welfare of persons on the site.*

7.10 Waste Classification by Assessment

We have reviewed the testing results and inputted them into the HazWasteOnline model which allows users to code and classify waste as defined in the EWC (European Waste Catalogue 2002) based on EC Regulation 1272/2008 on the Classification, labelling and packaging of substances and mixtures (CLP) and latest Environment Agency guidance (WM3 "Guidance on the classification and assessment of waste (1st edition 2015)-Technical Guidance").

This is a useful tool as waste producers have the legal responsibility to classify any waste they produce.

Thirty samples were tested to assess whether they contained any contaminants in the hazardous range when screened against assessment criteria within WM3. The results are in the Waste Classification Report presented in *Appendix 12*.

Based on the assessment tool the Made Ground soils have generally been classified as *Non-Hazardous*. However, three samples of the granular Made Ground have been classified as being Hazardous as follows:

- *HP03 at 0.5m - Ecotoxic hazardous properties associated with the copper content.*
- *WS07A at 1.0m - Ecotoxic hazardous properties associated with the lead content.*
- *BH1 at 0.5m bgl - Corrosive hazardous properties associated with the pH concentration.*

Total testing was undertaken on two samples of the natural soils in TP06 at 2.7m bgl and WS08 at 2.5m bgl and have these have been classified as *Non-Hazardous* for waste disposal purposes.

7.11 Waste Acceptance Criteria (WAC) Results

The Landfill Directive (Directive 1999/31/EC on the landfilling of waste) led to the establishment of a methodology for classifying wastes. Wastes can only be accepted at a landfill if they meet the relevant Waste Acceptance Criteria (WAC) for that type of landfill. There are three different WAC, these are for:

- *Inert waste*
- *Non-Hazardous waste*
- *Hazardous waste*

Wastes should first be classified based on their total concentrations as detailed in the previous section. WAC testing is then required if the end disposal route is a landfill.

Waste Acceptance Criteria (WAC) testing was outside the scope of this investigation and the guidance given below is general.

The possibility of automatic inert classification of the natural soils should be explored in accordance with Section 4.3 of the EA guidance document. The Council Decision includes a list of wastes in Section 2.1.1 of the document that are assumed to be inert and therefore acceptable at a landfill for inert waste without testing, this is the case if:

- *They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source)*
  and
- *There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other their disposal in other classes of landfill.*

If any organic contaminated material is encountered during the construction phase, it is possible that this may be classified as hazardous, and testing should be undertaken at that time.

Materials should be segregated and where necessary, sufficient time is allowed to further classify the material properly, including discussion with landfill sites and waste transfer stations to find the best disposal route. It is recommended that where possible, the soils could be recycled at a suitable local waste treatment plant or transfer station rather than a landfill disposal route.

The reuse of soils on the site this should be done in accordance with the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE CoP). Any re-use scheme should be designed to minimise disposal costs.

After a cut and fill balance plan/volume calculation has been carried out, a U1 and T5 exemption could be registered. This will allow the use of the following soils without a waste permit or under Dow CoP MMP:

- *1,000 tonnes (c.600m^3) of non-hazardous soil*
- *5,000 tonnes (c.3,000m^3) of natural sand and gravels.*
- *50,000 tonnes (c.25,000m^3) of bituminous material to be used in roadways.*
- *5,000 tonnes (c.3,000m^3) of crushed concrete / stone.*

8.0 FINAL APPRAISAL

8.1 Land Quality

The site has historically been occupied by Mills and a chapel. The mill on the northern half of the site still exists whereas the buildings on the southern area have been demolished.

Made Ground has been encountered to a maximum depth of 4.0m bgl and was underlain by firm and firm to stiff Clay interbedded with bands of sand. Sandstone bedrock was encountered from depths of between 15.5m and 17.8m bgl.

Geo-environmental testing has recorded elevated concentrations of metals and PAHs within the granular Made Ground soils. In addition, elevated concentrations of hydrocarbons were recorded in HP11 which was excavated adject to an above ground tank. Asbestos was detected in two of thirty-two samples that were screened.

It is proposed to develop the site with apartments which will include areas of soft landscaping therefore the risk to human health is considered to be *Moderate.*

Potential sources of volatiles have been identified and the risk from vapours is considered to be *Moderate to High.*

Interim gas monitoring results currently place the site into CS2 and gas protection measures will be required. This will be confirmed upon completion of the monitoring. The site is also located in an area requiring basic radon precautions within foundations. In addition, allowance should be made for the membrane to be resistant to vapours as well. The risk from permanent ground gases is *Moderate to High.*

Groundwater testing indicates that elevated concentrations of Nickel, Zinc and PAHs are present in the samples that were taken from beneath the site. The site has historically been surrounded by industrial premises which are indicated to be the source of the contamination. In addition, the site is underlain by natural cohesive deposits which will have prevented the downward migration of potential contaminants. At present, the risk to groundwater is *Moderate to Low* and a second round of groundwater monitoring is required. The risk to nearby surface water is *Low.*

Based on the assessment tool the granular Made Ground soils have generally been classified as *Non-Hazardous*. However, three samples of the granular Made Ground have been classified as being *Hazardous* as follows:

- *HP03 at 0.5m - Ecotoxic hazardous properties associated with the copper content.*
- *WS07A at 1.0m - Ecotoxic hazardous properties associated with the lead content.*
- *BH1 at 0.5m bgl - Corrosive hazardous properties associated with the pH concentration.*

8.2 Ground Engineering

The most suitable solution for the proposed apartment development is considered to be piled foundations transferring loads through the underlying Made Ground and natural Clay and Sand strata to the very weak Sandstone which has been encountered between 15.5m and 17.8m bgl. The most suitable type of pile for the development is considered to be Continuous Flight Auger (CFA) bored pile, this should be discussed with the preferred piling contractor.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-3 and sulphate class DS-3 conditions prevail in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005.

CBR values of 2% to 5% are likely to be achieved in any shallow undisturbed natural soils for pavement design purposes. Untreated Made Ground should be assumed to have a CBR value of less than 2.5%, unless proven otherwise.

SuDS drainage is not considered to be a feasible option at the site due to the presence of deep Made Ground and natural cohesive soils beneath the site which are capable of poor infiltration rates.

There are archaeological restrictions on the site that require consideration.

8.3 Required Further Work

The following further work is considered necessary to progress the site to construction phase:

Completion of gas monitoring programme
Issue gas assessment
Second round of groundwater testing
Further environmental testing of 6F2 stockpile if utilised
Removal of piles of waste and fly tipping in the external area
Demolition and Refurbishment Asbestos survey
Production of Remedial Specification
Vapour modelling, if required
Tree survey by qualified arboriculturist
Detailed foundation design
Confirmation of the recommendations made within this report with the Regulators

9.0 RELEVANT INDUSTRY REFERENCES

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BS 8485:2015 '*Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings'*

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CL:AIRE "*The Definition of Waste: Development Industry Code of Practice*" Version 2 March 2011.

CIRIA "*Asbestos in soil and made ground: a guide to understanding and managing risks*" C733 2014

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Department of the Environment. 1995. Industry Profiles - 48 separate publications available from The Stationery Office, London

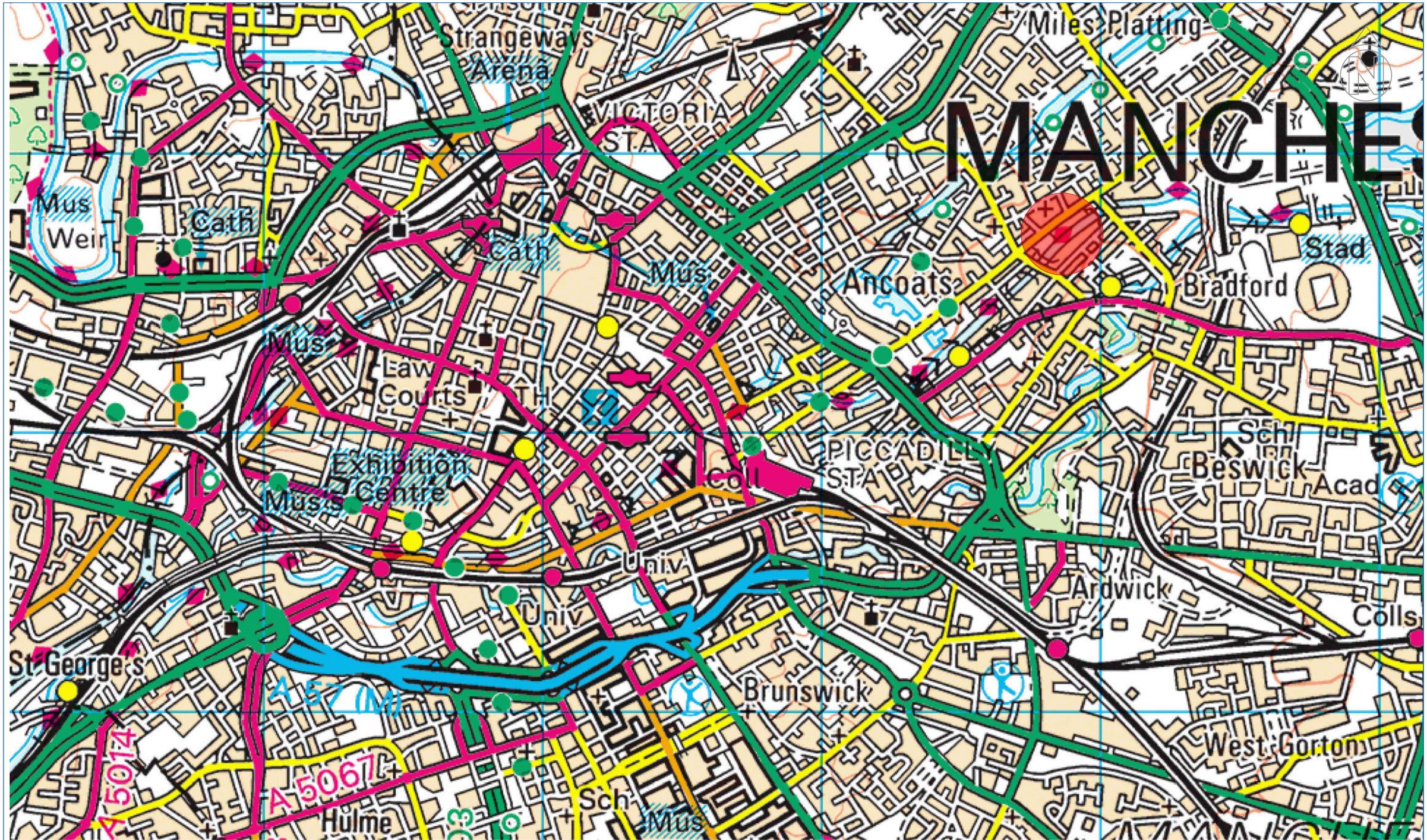
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APPENDIX 1 - Plans



GROUNDTECH CONSULTING

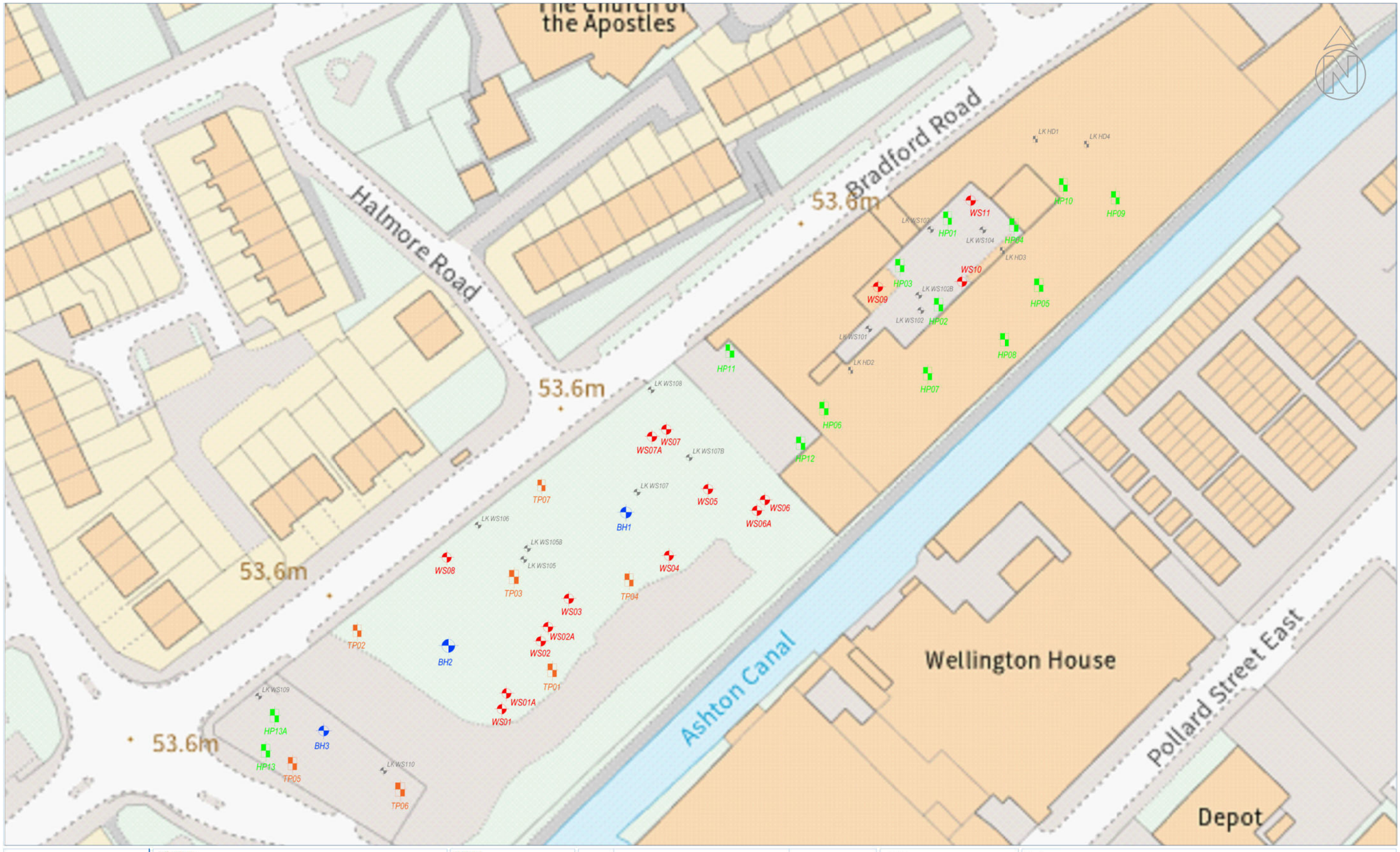
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PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	PROJECT LOCATION PLAN
DATE	JUNE 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P01

Rev.	Details	Date

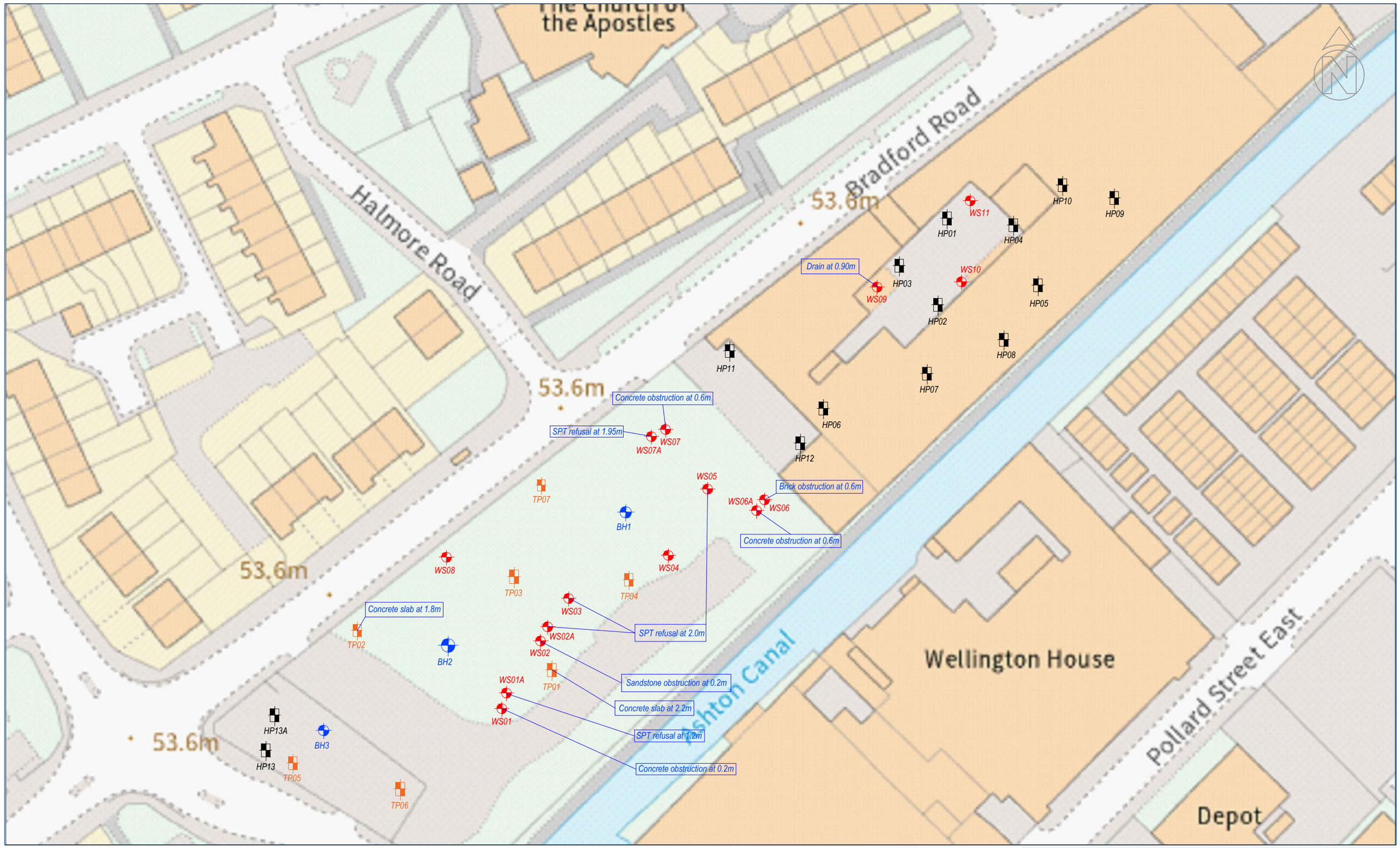
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Issued	●
For Comment	
Approved	

Notes

SITE LOCATION



GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JUNE 2023			Status: Preliminary / Draft / Issued ● / For Comment / Approved
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS			Notes: GROUNDTECH HAND DUG PIT LOCATION; GROUNDTECH TRIAL PIT LOCATION; GROUNDTECH CABLE PERCUSSION AND ROTARY BOREHOLE LOCATION; GROUNDTECH WINDOWLESS SAMPLE BOREHOLE LOCATION; LK WINDOWLESS SAMPLE BOREHOLE LOCATION; LK HAND DUG PIT LOCATION
	PLAN TITLE: EXPLORATORY HOLE LOCATION PLAN	PLAN NUMBER: GRO-22462-P02	Rev.	Details / Date	



GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JUNE 2023
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS
	PLAN TITLE: OBSRTUCTIONS PLAN	PLAN NUMBER: GRO-22462-P03

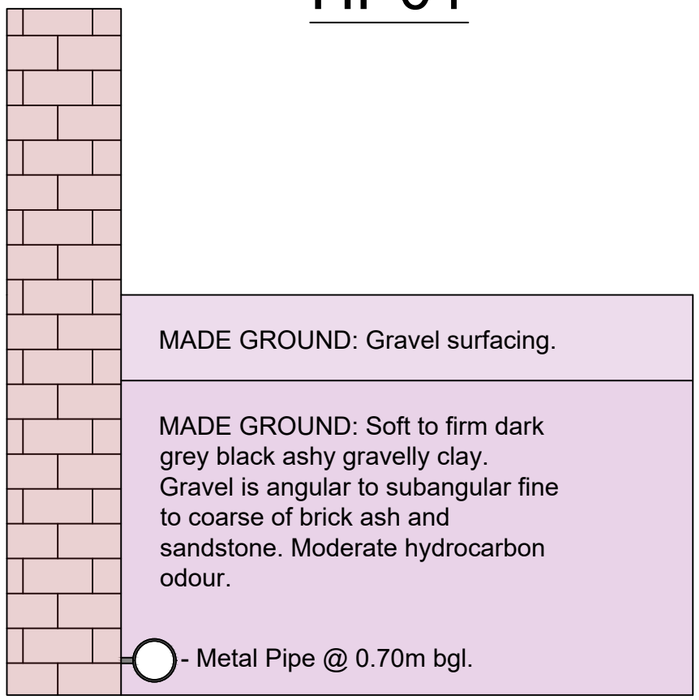
Rev.	Details	Date

Status	
Preliminary	
Draft	
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For Comment	
Approved	

Notes

- HAND DUG PIT LOCATION
- TRIAL PIT LOCATION
- CABLE PERCUSSION AND ROTARY BOREHOLE LOCATION
- WINDOWLESS SAMPLE BOREHOLE LOCATION

HP01



Ground Level

0.15m

0.70m



GROUNDTECH CONSULTING

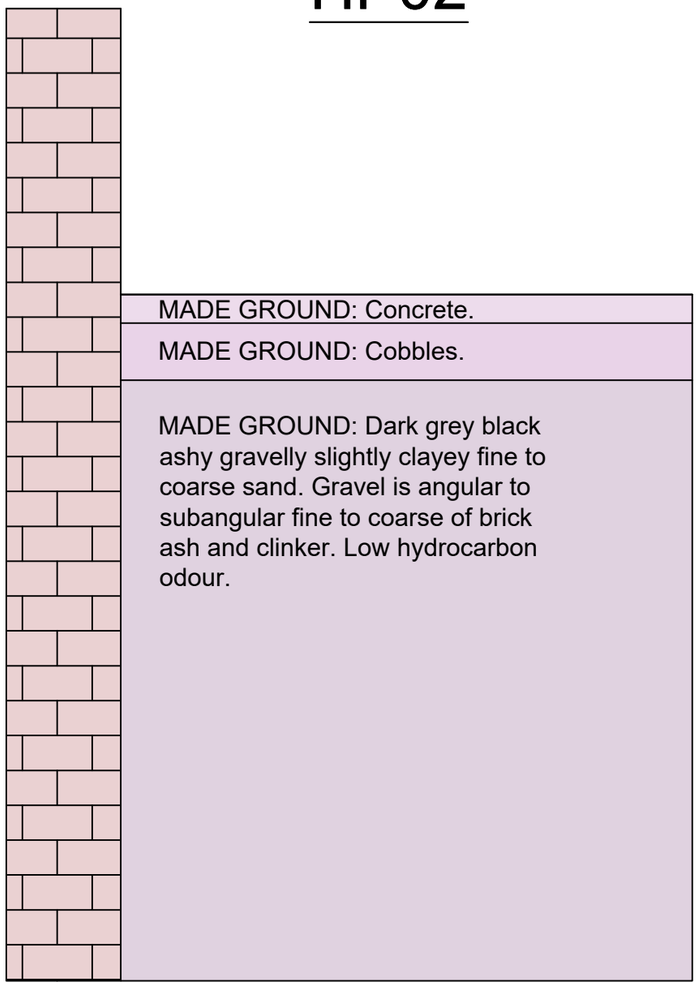
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PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP01 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04A

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

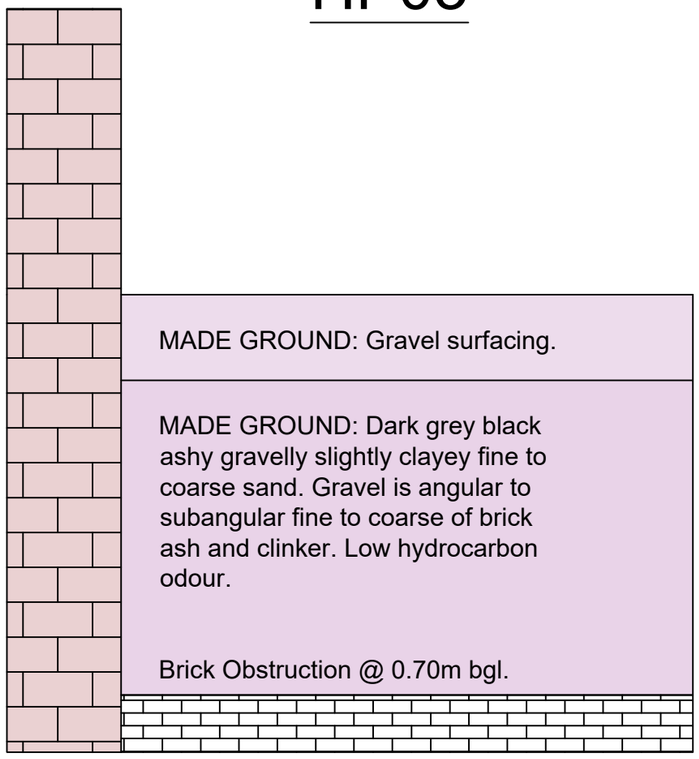
HP02





GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JULY 2023			Status: Preliminary / Draft / Issued ● / For Comment / Approved
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS			Notes
	PLAN TITLE: HP02 FOUNDATION CROSS SECTION	PLAN NUMBER: GRO-22462-P04B	Rev. / Details / Date		

HP03



Ground Level

0.15m

0.70m
Unknown



GROUNDTECH CONSULTING

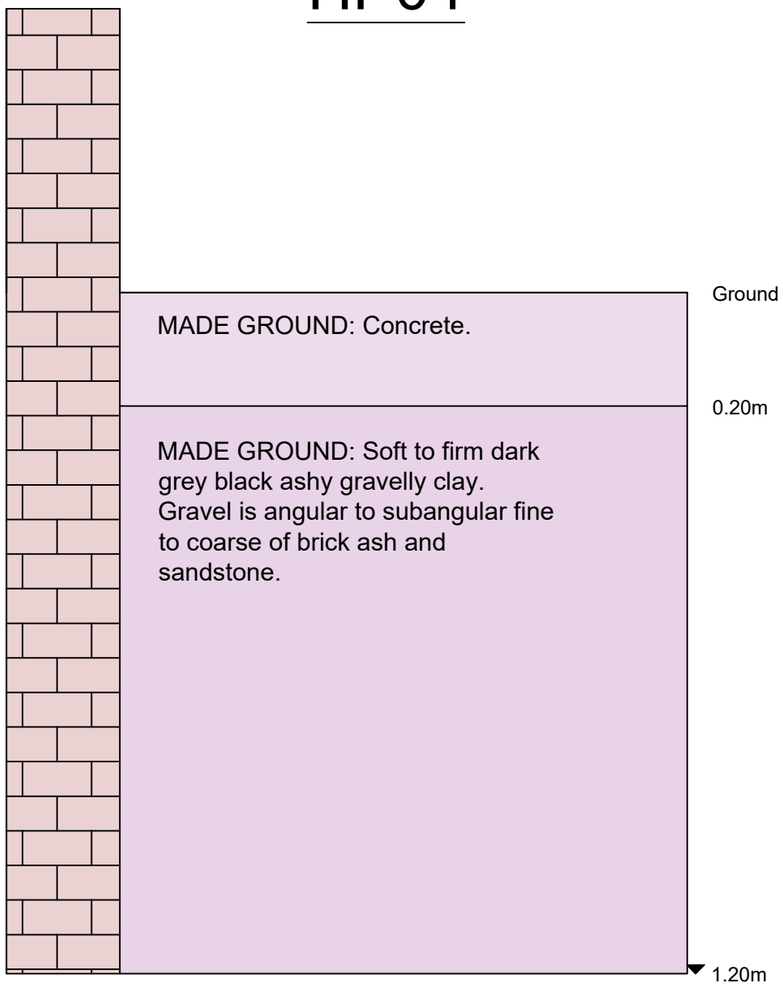
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP03 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04C

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

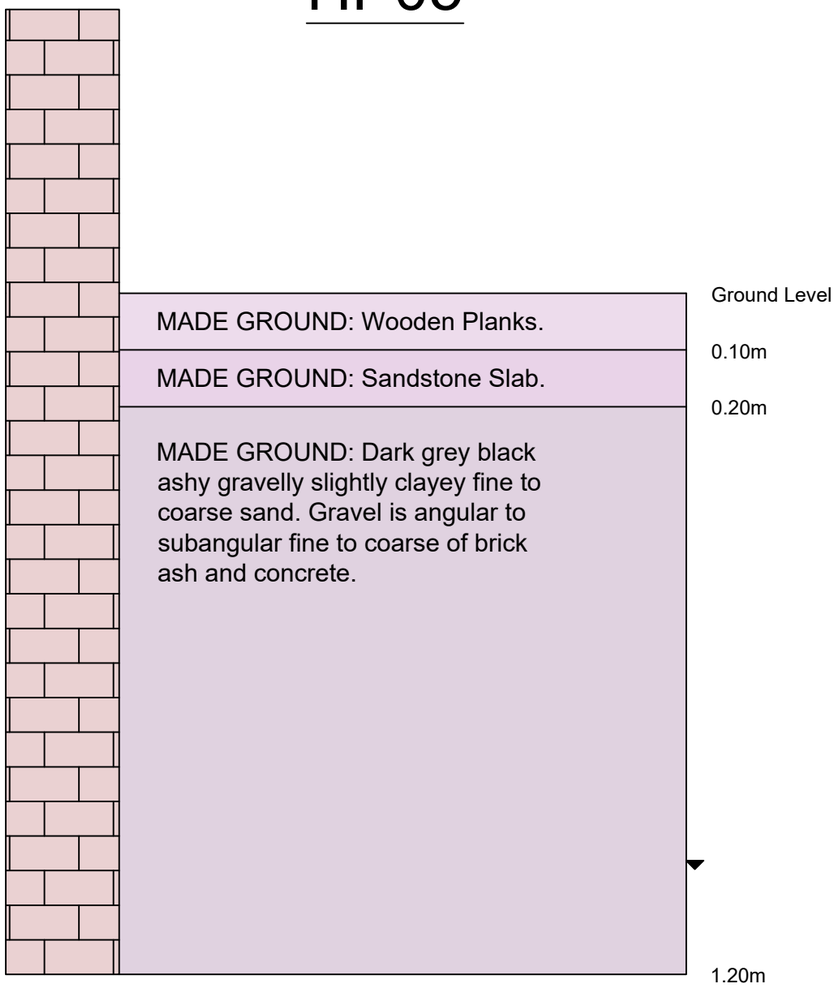
HP04





GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JULY 2023				Status: Preliminary ☐ Draft ☐ Issued ● For Comment ☐ Approved ☐
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS				Notes
	PLAN TITLE: HP04 FOUNDATION CROSS SECTION	PLAN NUMBER: GRO-22462-P04D	Rev.	Details	Date	

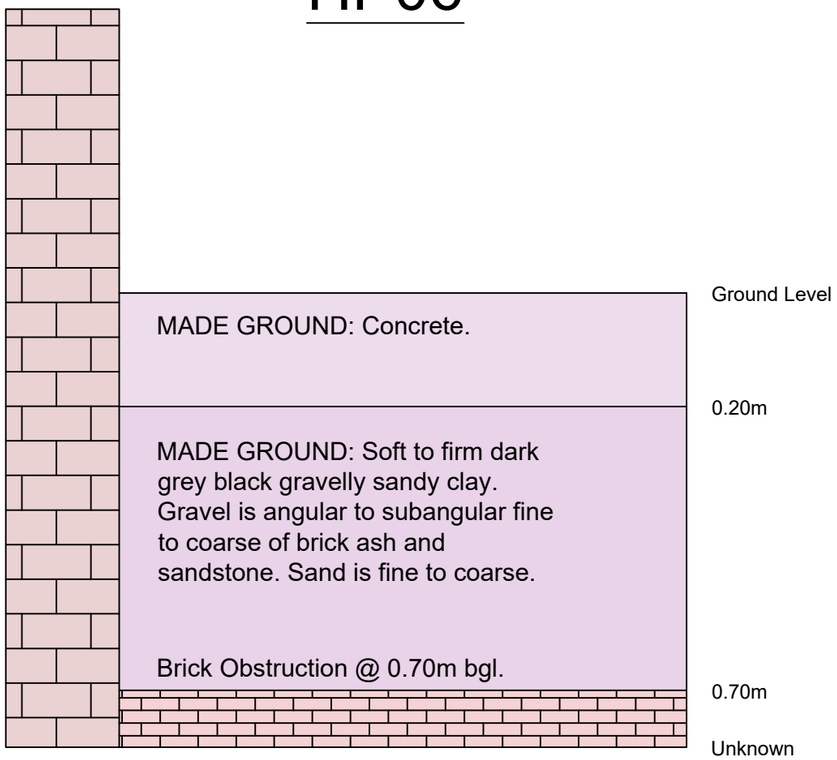
HP05





GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JULY 2023			Status: Preliminary ☐ Draft ☐ Issued ● For Comment ☐ Approved ☐
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS			Notes
	PLAN TITLE: HP05 FOUNDATION CROSS SECTION	PLAN NUMBER: GRO-22462-P04E	Rev.	Details / Date	

HP06





GROUNDTECH CONSULTING

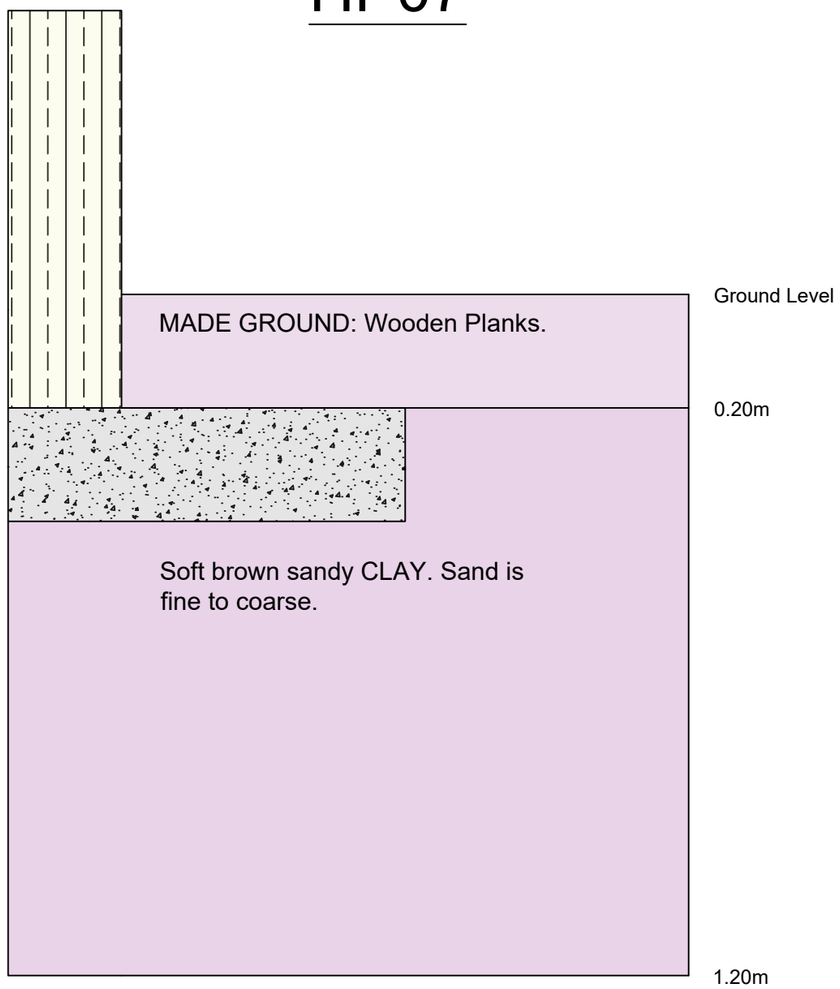
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP06 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04F

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP07





GROUNDTECH CONSULTING

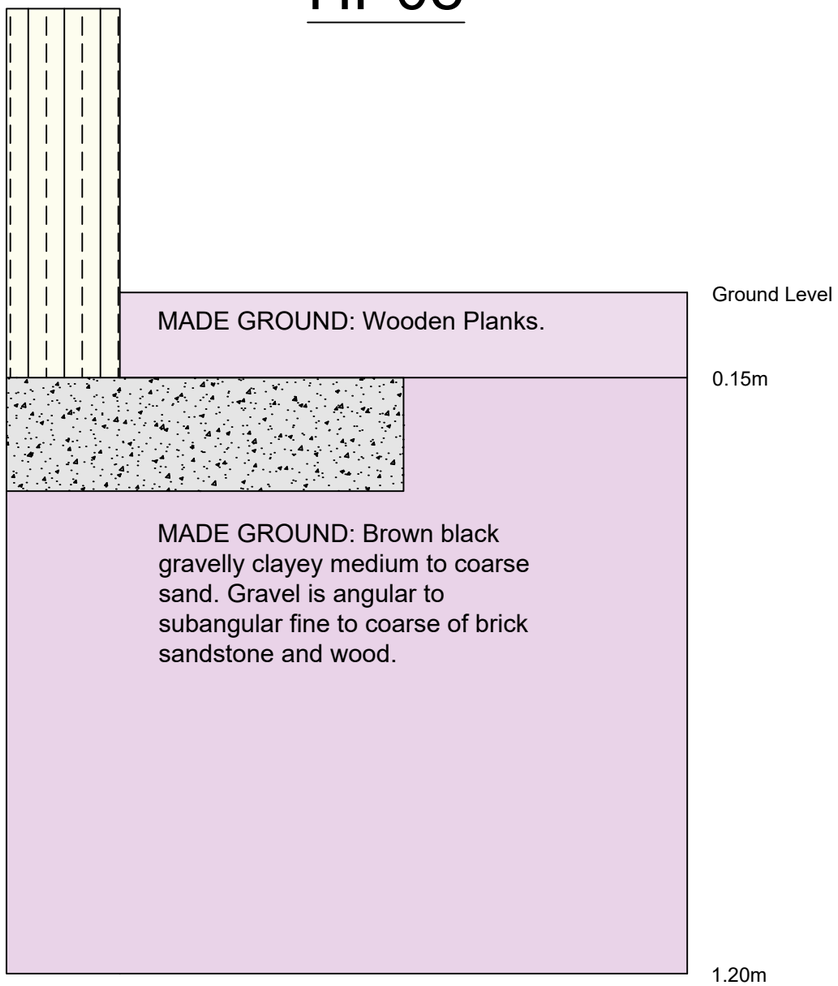
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP07 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04G

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP08

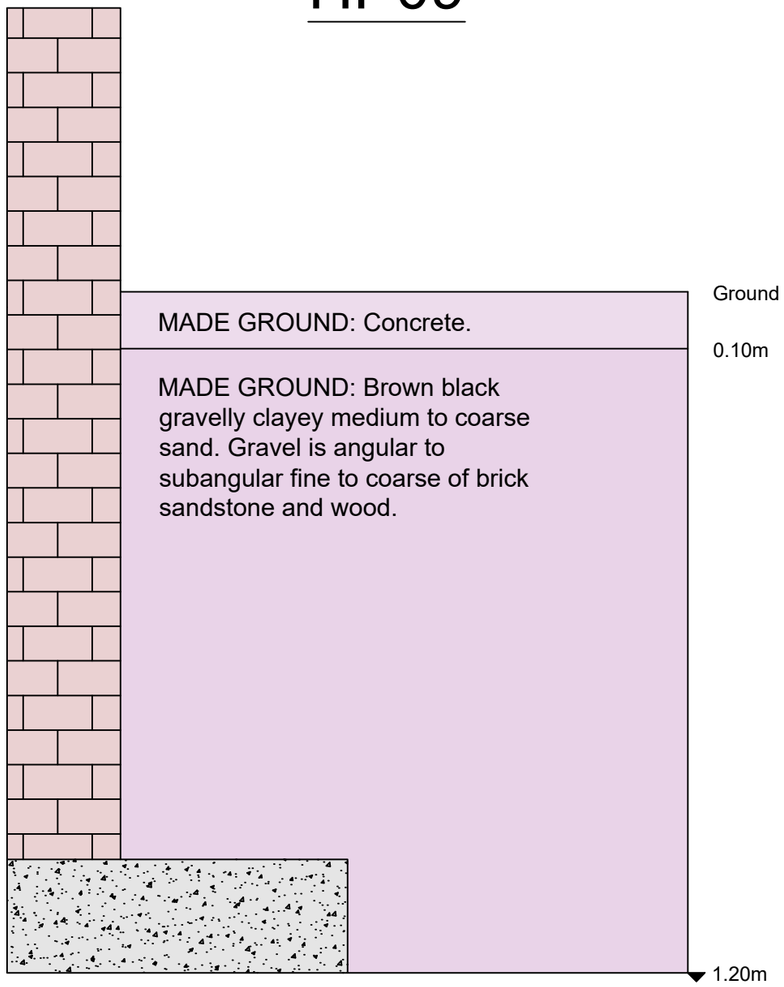




GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JULY 2023				Status	
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS				Preliminary	
						Draft	
	PLAN TITLE: HP08 FOUNDATION CROSS SECTION	PLAN NUMBER: GRO-22462-P04H				Issued	●
						For Comment	
			Rev.	Details	Date	Approved	

Notes

HP09





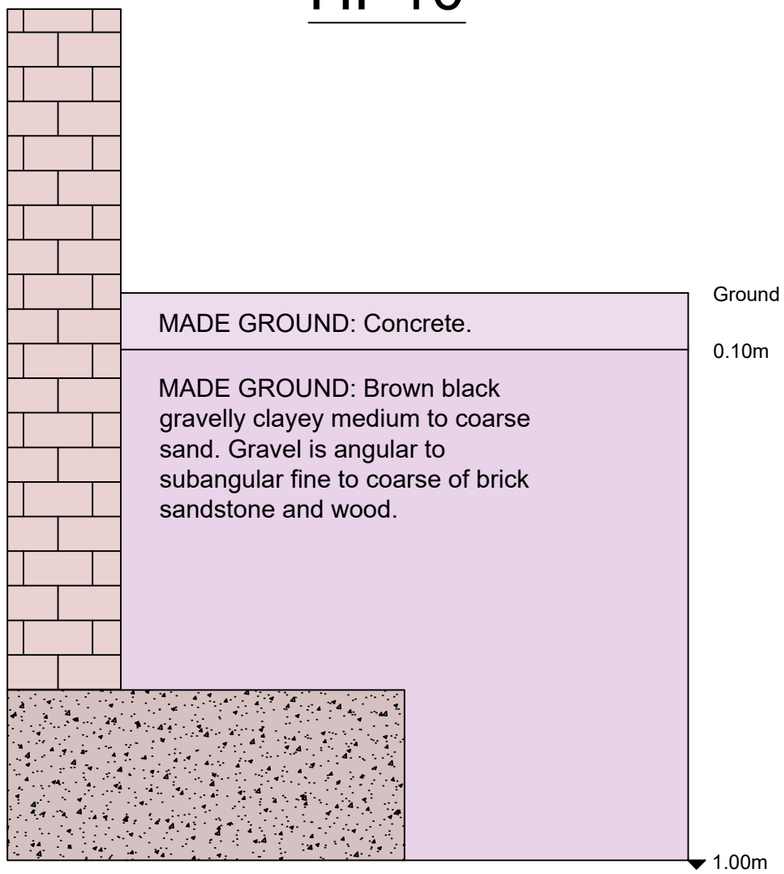
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP09 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04I

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP10





GROUNDTECH CONSULTING

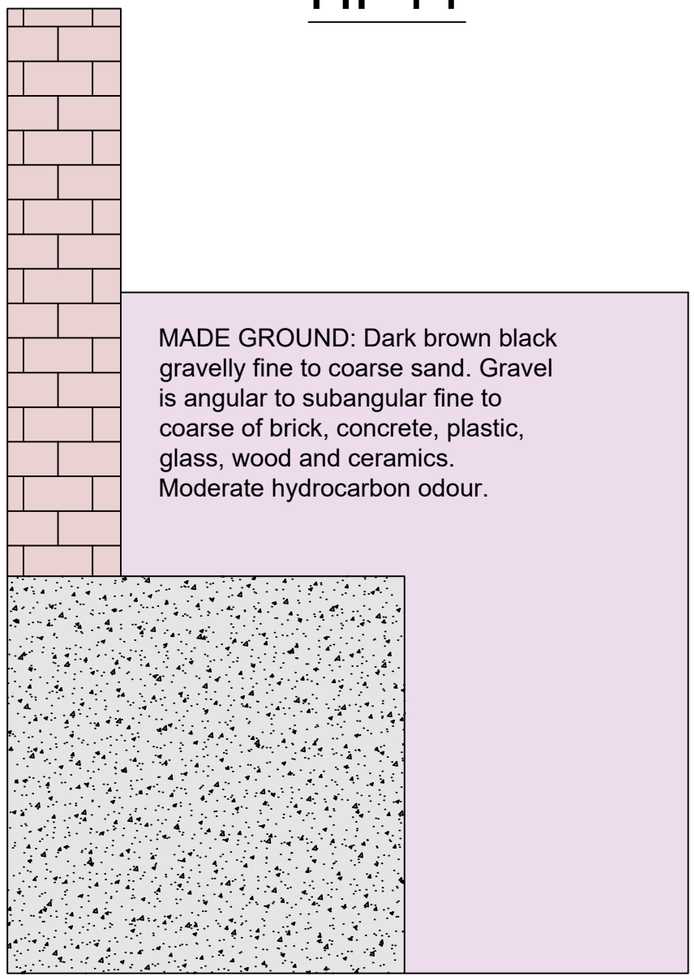
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP10 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04J

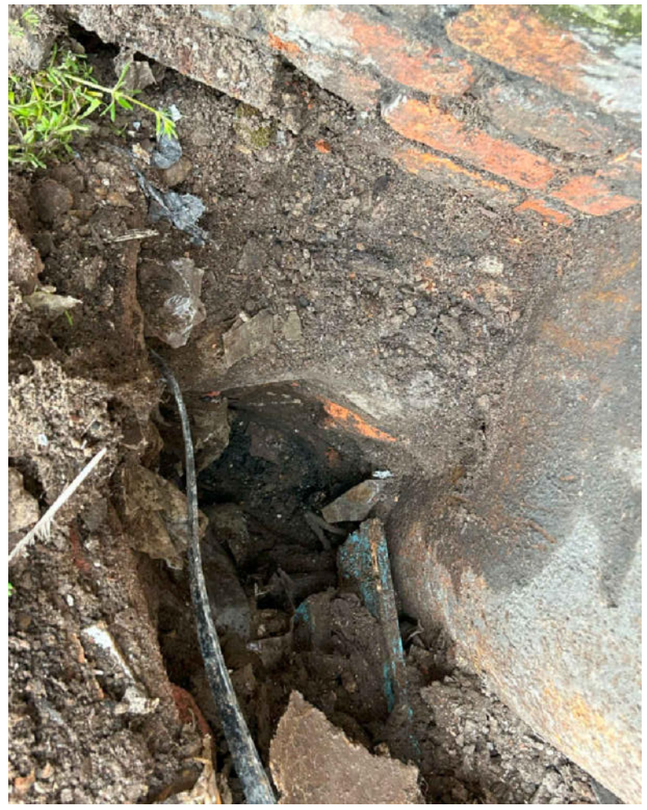
Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP11





GROUNDTECH CONSULTING

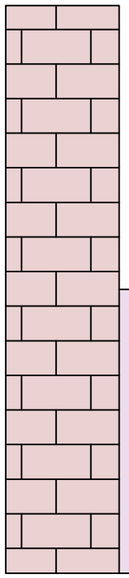
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP11 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04K

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP12



Ground Level

MADE GROUND: Dark brown black gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick, concrete, plastic, glass, wood and ceramics.
Moderate hydrocarbon odour.

Terminated at 0.50m bgl due to collapse.

0.50m



GROUNDTECH CONSULTING

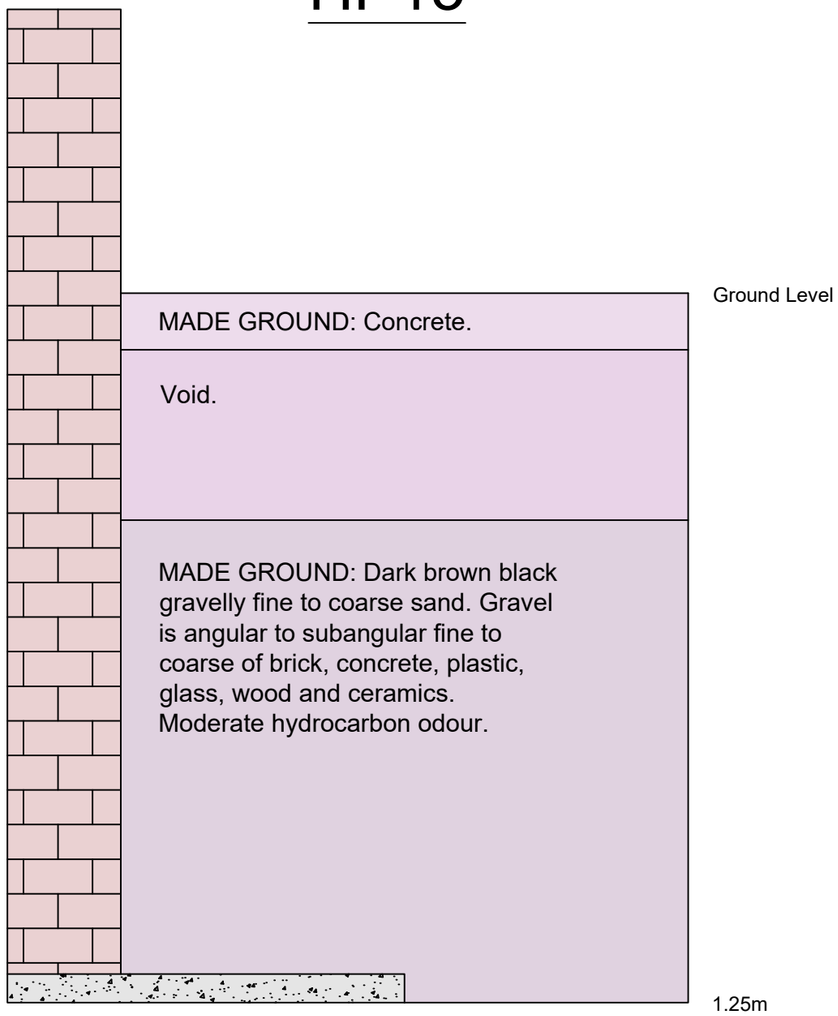
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP12 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04L

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

HP13





GROUNDTECH CONSULTING

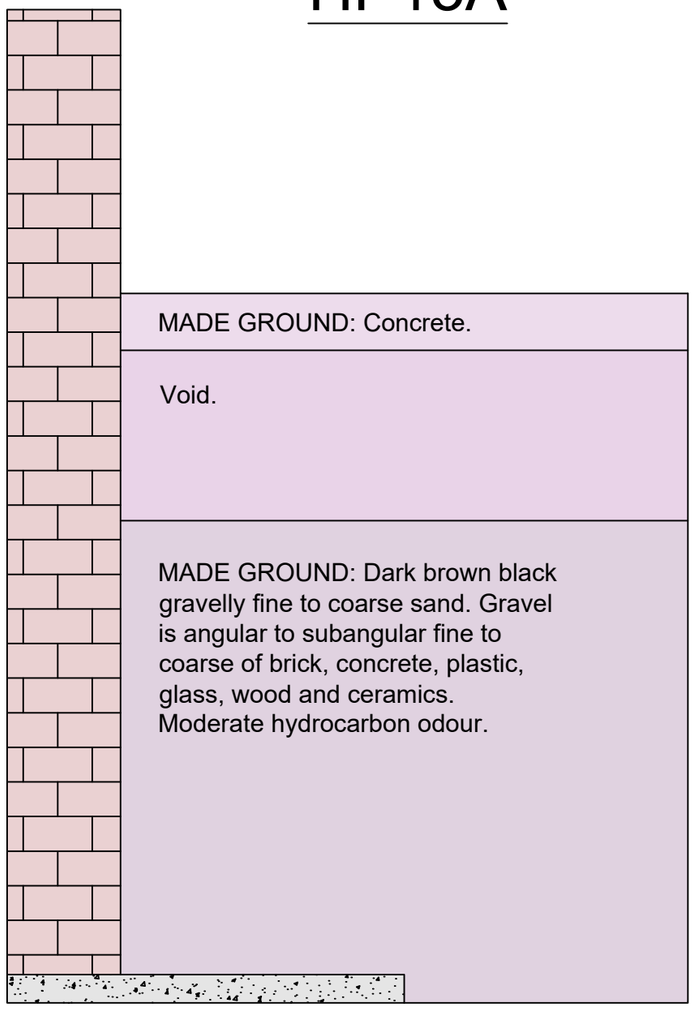
CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	HP13 FOUNDATION CROSS SECTION
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P04M

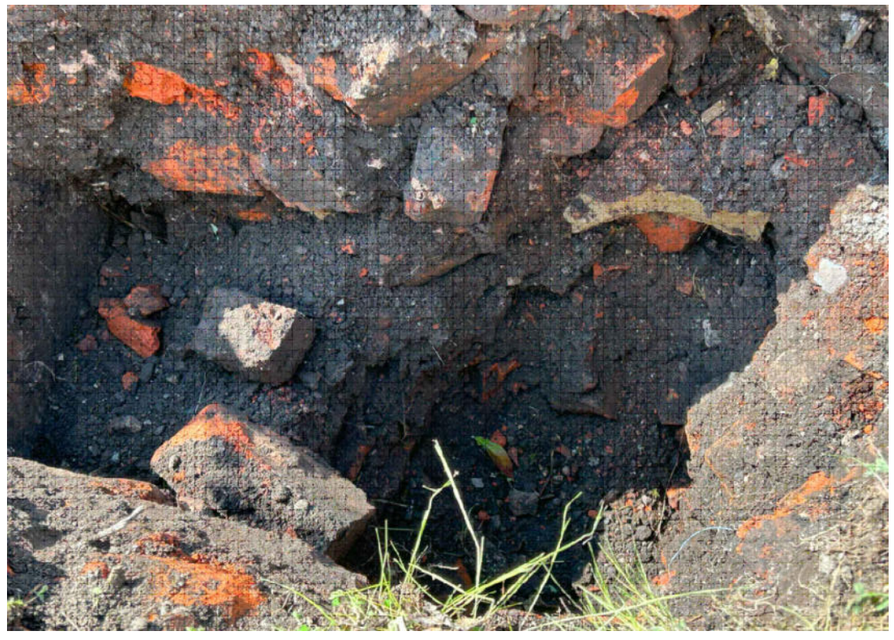
Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

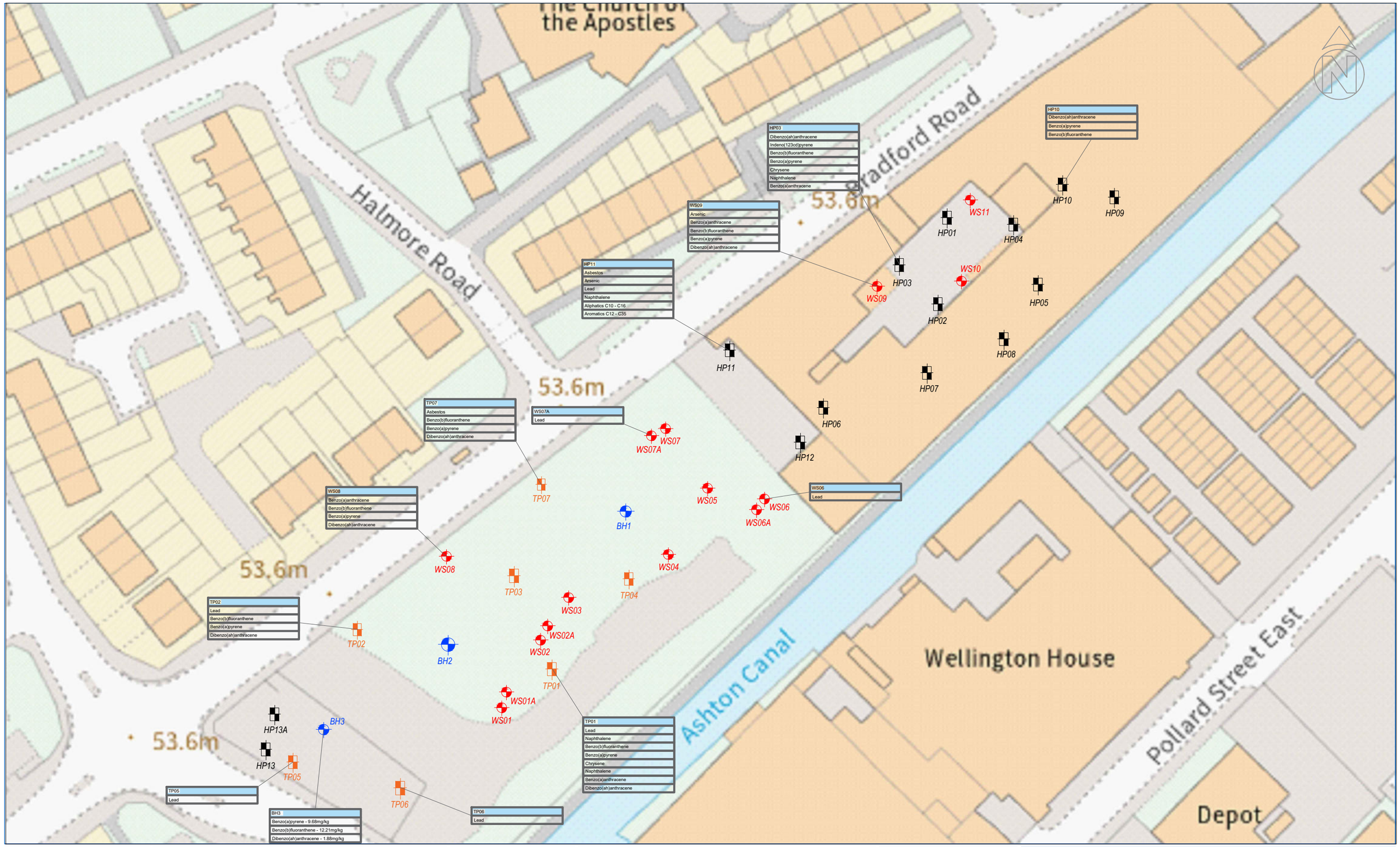
Notes

HP13A





GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JULY 2023			Status: Preliminary / Draft / Issued / For Comment / Approved
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS			Notes
	PLAN TITLE: HAND DUG FOUNDATION PIT	PLAN NUMBER: GRO-22462-HP13A	Rev. / Details / Date		



GROUNDTECH CONSULTING	CLIENT: ARROWSMITH INVESTMENT LIMITED	DATE: JUNE 2023	
	PROJECT TITLE: BRUNSWICK MILL	SCALE: NTS	
	PLAN TITLE: CONTAMINATION PLAN	PLAN NUMBER: GRO-22462-P06	

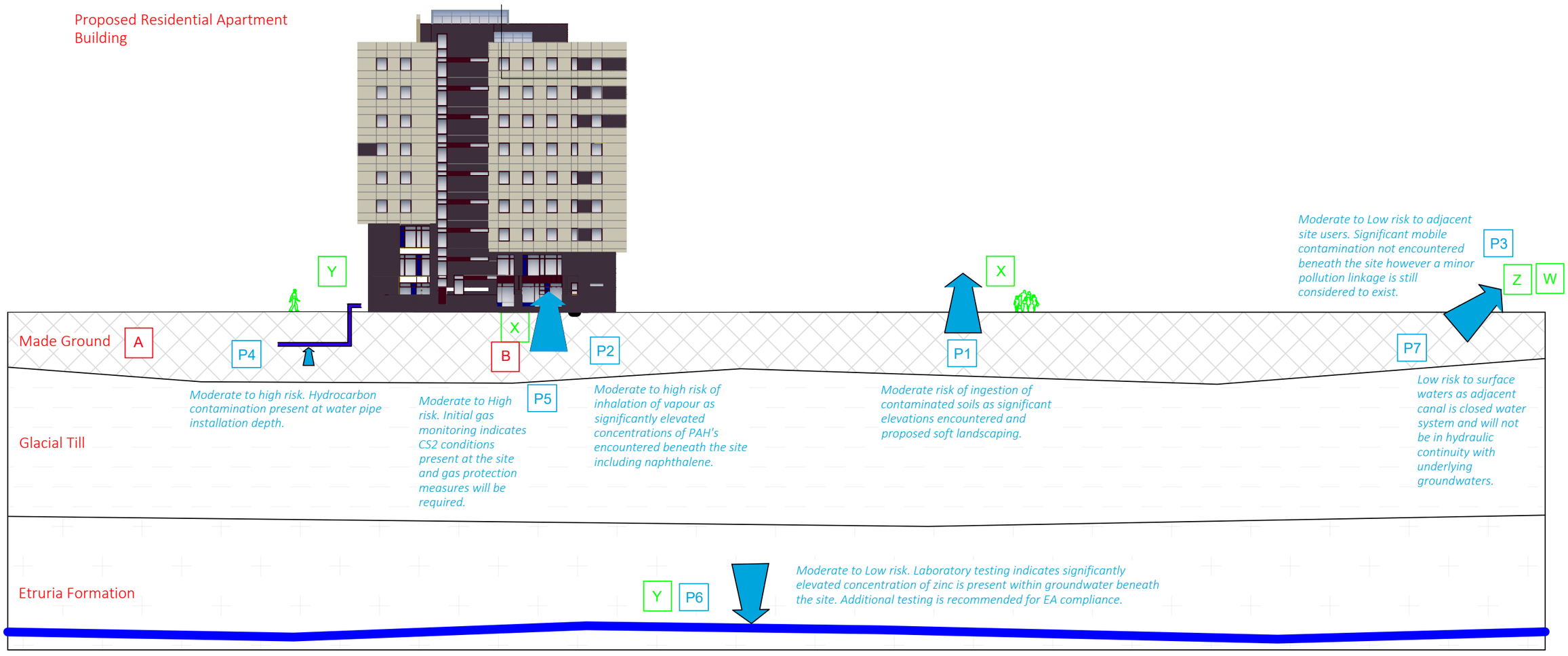
Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

- HAND DUG PIT LOCATION
- TRIAL PIT LOCATION
- CABLE PERCUSSION AND ROTARY BOREHOLE LOCATION
- WINDOWLESS SAMPLE BOREHOLE LOCATION

SOURCES	POLLUTION LINKAGES	RECEPTORS
A. Contaminated soils / Made Ground. B. Ground gas.	P1. Ingestion of soil and dust. P2. Inhalation of vapour. P3. Inhalation of soil dust by adjacent site users. P4. Attacking of potable water supply pipe. P5. Migration and accumulation of ground gas in internal places. P6. Impaction of groundwater from soil contamination. P7. Migration of soil and groundwater contamination impacting surface waters.	W. Ashton Canal adjacent to the south of the site. X. Site end users. Y. Groundwater within the underlying Secondary A Undifferentiated superficial and Secondary A bedrock Aquifers. Z. Adjacent site users.



GROUNDTECH CONSULTING

CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	ILLUSTRATIVE REVISED CSM
DATE	JULY 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P07

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 2 - Site Photographs



Photograph 1 – Brunswick Mill courtyard in the north.



Photograph 2 – External site area with 6F2 stockpile on the right.



Photograph 3 – Entrance to the south west corner of the site.



Photograph 4 – Pile of waste against the external mill walls.



Photograph 5 – LPG gas cannisters located on site.



Photograph 6 – Tank currently situated adjacent to the existing mill building.



Photograph 7 – Ashton Canal towpath to the south of the site.



Photograph 8 – Visual evidence of contamination in TP01.



Photograph 9 – Concrete slab encountered in TP02 at 1.8m bgl.



Photograph 10 – Existing brick wall from partially demolished methodist chapel.



Photograph 11 – Oily coating on soil obtained from HP11 adjacent to the tank.



Photograph 12 – Waste and tree root in the location of HP12.



Photograph 13 – Entrance to Brunswick Mill courtyard.



Photograph 14 – 6F2 stockpile in the south.

APPENDIX 3 - Exploratory Hole Logs

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:25	Sheet 1 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES								MADE GROUND: Brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, ceramics, plastic and glass.
		0.50	D								
		0.50	ES								
		1.00	ES								
		1.20 - 1.65	D				(22)				
		2.00	D				N=50 (25 for 20mm/ 50 for 10mm)				
		2.00 - 2.45	ES								
		3.00	D					3.00	50.91		
		3.00 - 3.45	ES								MADE GROUND: Soft brown gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and shale.
		4.00	ES					4.00	49.91		
		4.00 - 4.45	U								Firm high strength brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale.
		4.50	D								
		5.00 - 5.45	D				(15)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:25	Sheet 2 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Firm high strength brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale.
		6.50 - 6.95	U								
		7.00	D								*Becoming very sandy from 7.0m to 8.0m bgl.*
		8.00 - 8.45	D				(26)				*Becoming stiff at 8.0m bgl.*
		9.50 - 9.95	U								
		10.00	D								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:25	Sheet 3 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		11.00 - 11.45	D				(42)				Firm high strength brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale.
											Becoming gravelly at 12.0m bgl.
		12.50 - 12.95	D				N=50 (25 for 70mm/ 50 for 20mm)				
								13.00	40.91		Very dense brown sandy silty slightly clayey angular to subrounded fine to coarse GRAVEL of sandstone. Sand is medium to coarse.
		14.00 - 14.45	D				N=50 (25 for 20mm/ 50 for 30mm)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:25	Sheet 4 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		15.50 - 15.95	D				(41)				Very dense brown sandy silty slightly clayey angular to subrounded fine to coarse GRAVEL of sandstone. Sand is medium to coarse.
		16.50 - 16.95	D				N=50 (25 for 70mm/ 50 for 50mm)				
		17.65 - 18.00	D				N=50 (25 for 30mm/ 50 for 20mm)	17.00	36.91		Weak red SANDSTONE residually weathered recovered as clayey slightly gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse.
			NR					18.00	35.91		NO RECOVERY.
		18.00 - 19.50	NI 1 NI 1 NI	49	15	15		18.77	35.14		Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth planar closely spaced discontinuities. *From 18.77m to 18.86m bgl recovered as subrounded coarse cobbles.* *From 18.96m to 19.02m bgl recovered as sandy subrounded coarse cobbles. Sand is coarse.* *From 19.14m to 19.50m bgl recovered as subangular to subrounded medium to coarse gravel with occasional cobbles.*
			NR 1 NI 1 NI 1					19.50 19.58	34.41 34.33		NO RECOVERY. Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 02/05/2023 - 04/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385811.00 N398699.70
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH1	CP+RC	53.91m AoD	JR	1:25	Sheet 5 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00	NI 1 NI 2 NI 2	95	68	51					Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal rough undulating closely spaced discontinuities. *From 19.67m to 19.76m bgl recovered as subangular cobble.* *From 19.86m to 19.88m bgl recovered as subangular coarse gravel.* *From 20.05m to 20.22m bgl recovered as subangular to subrounded coarse gravel.* *From 20.30m to 20.41m bgl recovered as very clayey subangular to subrounded medium to coarse gravel.*
								21.00	32.91		
		21.00 - 22.50	NR NI 2 NI 1 NI 1 NI 2 NI	97	42	31		21.05 21.09	32.86 32.82		*Yellow calcareous minerals present from 20.40m to 20.43m bgl.* *From 20.61m to 20.63m bgl recovered as subangular coarse gravel.* NO RECOVERY. Weak red brown SANDSTONE residually weathered recovered as slightly sandy angular to subangular fine to coarse gravel. Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth stepped very close to closely spaced discontinuities. *From 21.34m to 21.74m bgl recovered as gravelly angular to subrounded fine to coarse cobbles. Gravel is angular to subrounded fine to coarse.* *From 21.81m to 21.89m bgl recovered as gravelly sand. Gravel is angular to subangular fine to coarse. Sand is fine to coarse.* *From 21.92m to 21.96m bgl recovered as angular coarse gravel.* *From 22.24m to 22.50m bgl recovered as gravelly subrounded coarse cobbles. Gravel is angular to subangular fine to coarse.*
								22.50	31.41		
		22.50 - 24.00	2 NI 2	100	89	89					Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth undulating close to medium spaced discontinuities. *Very clayey from 22.5m to 23.86m bgl.* *From 22.90m to 23.06m bgl recovered as very clayey sandy subrounded coarse cobbles. Sand is fine to coarse.*
								24.00	29.91		End of Borehole at 24.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. SPT refusals encountered at 2.0m, 12.5m, 14.0m, 16.5m and 17.65m bgl. 5. Cable percussion drilling terminated at 18.0m bgl. Rotary core follow on to 24.0m bgl. 7. Monitoring standpipe installed to 24.0m bgl (18.0m plain, 6.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:25	Sheet 1 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES								MADE GROUND: Brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, ceramics, plastic, fabric and glass.
		0.50	D								
		0.50	ES								
		1.00	ES								
		1.20 - 1.65	D				(15)				
								1.80			MADE GROUND: Concrete slab.
		2.00	D				(6)	2.00			MADE GROUND: Soft brown gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and shale.
		2.00 - 2.45	ES								
		3.00	D				(6)				
		3.00 - 3.45	ES								
								3.50			Soft brown sandy silty CLAY. Sand is fine to coarse.
		4.00	D					4.00			Stiff brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale and sandstone.
		4.00 - 4.45	ES								
		5.00 - 5.45	U								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:25	Sheet 2 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		5.50	D								Stiff brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale and sandstone. *Medium strength at 5.0m bgl.*
		6.50 - 6.95	D				(15)				
		8.00 - 8.45	U								*High strength at 8.0m bgl.*
		8.50	D								
		9.50 - 9.95	D				(20)				

6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:25	Sheet 3 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Stiff brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale and sandstone.
		11.00 - 11.45	U								*Very high strength at 11.0m bgl.*
		11.50	D								
		12.50 - 12.95	D				(35)				
		14.00 - 14.45	D				N=50 (5,6/50 for 70mm)				
			D				(18)				

11
12
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14
15

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:25	Sheet 4 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		15.00 - 15.45						15.20			Stiff brown slightly gravelly slightly sandy CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including shale and sandstone. Red brown fine to medium SAND.
		15.50 - 16.00	D				N=50 (25 for 30mm/ 50 for 10mm)	15.50			Weak red SANDSTONE residually weathered recovered as sandy angular to subangular fine to coarse gravel. Sand is medium to coarse.
							N=50 (25 for 10mm/ 50 for 10mm)	16.00			NO RECOVERY
		16.00 - 17.50	NR 1 NI 2 NI 3 NI	70	54	49		16.45			Weak red brown fine grained SANDSTONE, moderately weathered with horizontal rough planar close to medium spaced discontinuities. *From 16.54m to 16.59m bgl recovered as subrounded coarse cobbles.* *From 16.85m to 16.87m bgl recovered as angular cobbles.* *From 17.35m to 17.50m bgl recovered as subangular coarse cobbles.*
		17.50 - 19.00	NR NI 4 NI NI NR	62	39	24		17.50 18.07			NO RECOVERY Weak red brown fine grained SANDSTONE, moderately weathered with horizontal striated stepped close to medium spaced discontinuities. *From 18.07m to 18.18m bgl recovered as sandy angular to subrounded fine to coarse gravel. Sand is coarse.* *From 18.70m to 18.9m bgl recovered as firm slightly sandy silty clay. Sand is fine.* *From 18.9m to 19.00m bgl yellow calcareous minerals present.*
		19.00 - 20.50	1 NI 2 NI 2 NI	96	73	47		19.00 19.05			NO RECOVERY. Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth planar closely spaced discontinuities. *From 19.21m to 19.30m bgl recovered as subrounded coarse cobbles.* *From 19.60m to 19.69m bgl recovered as subrounded coarse cobbles.* *From 19.61m to 19.62m bgl black organic staining on discontinuity.*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 04/05/2023 - 10/05/2023
Location: MANCHESTER	Contractor:	
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH2	CP+RC		JR	1:25	Sheet 5 of 5

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
			4								Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth planar closely spaced discontinuities.
			NR					20.50			*From 19.84m to 20.04m bgl recovered as sandy angular to subangular fine to coarse gravel of sandstone. Sand is fine to coarse.*
			2					20.55			*From 20.03m to 20.04m bgl yellow calcareous minerals present.*
			NI								NO RECOVERY.
			2								Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth planar close to medium spaced discontinuities.
		20.50 - 22.00	NI	96	80	75					*From 20.81m to 20.94m bgl recovered as subrounded coarse gravel.*
			3								*From 21.21m to 21.27m bgl recovered as subangular coarse cobbles.*
											From 21.75m to 21.76m bgl yellow calcareous minerals present.
			NI					22.00			*From 21.96m to 22.0m bgl recovered as subrounded coarse cobbles.*
											End of Borehole at 22.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 14.0m, 15.5m and 16.5m bgl. 5. Cable percussion drilling terminated at 16.0m bgl. Rotary core follow on to 22.0m bgl. 7. Monitoring standpipe installed to 21.0m bgl (18.0m plain, 3.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 1 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.50 0.50	D ES								MADE GROUND: Dark brown very gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone, concrete and plastic.
		1.00	ES								
		1.20 - 1.65	D				(16)				
		2.00 2.00 - 2.45	D ES				(10)				
								2.30	52.14		Firm grey mottled brown sandy CLAY. Sand is fine to coarse.
		3.00 3.00 - 3.45	ES U								
		3.50	D								
		4.00 - 4.45	D				(21)				
		5.00 - 5.45	U								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 2 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		5.50	D								Firm grey mottled brown sandy CLAY. Sand is fine to coarse.
		6.50 - 6.95	D				(22)				
		8.00 - 8.45	U								
		8.50	D								
		9.50 - 9.95	D				(22)				

6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 3 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Firm grey mottled brown sandy CLAY. Sand is fine to coarse.
		11.00 - 11.45	U								*Very high strength at 11.0m bgl.*
		11.50	D								
		12.50 - 12.95	D				(32)				
		14.00 - 14.45	D				(40)	14.00	40.44		Brown sandy gravelly COBBLES of sandstone. Gravel is angular to rounded fine to coarse of sandstone. Sand is medium to coarse.
								15.00	39.44		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 4 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		15.50 - 15.95	D				(42)				Stiff brown CLAY with a high cobble content of sandstone.
								16.50	37.94		Stiff grey silty CLAY.
		17.00 - 17.45	D				(37)				
								17.80	36.64		Weak red SANDSTONE residually weathered recovered as red brown clayey gravelly sand. Gravel is angular to subangular fine to coarse. Sand is medium to coarse.
		18.00 - 18.45	D				(27)				
		19.00	D				N=50 (25 for 10mm/ 50 for 20mm)				
		19.50	D				N=50 (25 for 20mm/ 50 for 10mm)				
								20.00	34.44		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 5 of 6

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											NO RECOVERY.
		20.00 - 21.50	NR	33	14	0					
			4					21.00	33.44		Very weak red brown fine grained SANDSTONE, extremely weathered with subhorizontal rough undulating closely spaced discontinuities.
			NI								*From 21.21m to 21.28m bgl grey colour within discontinuities.*
								21.50	32.94		*From 21.21m to 21.50m recovered as angular to subangular coarse gravel.*
			NR								NO RECOVERY.
		21.50 - 23.00	NI	53	10	10		22.20	32.24		
			1					22.30	32.14		Extremely weak red brown SANDSTONE, residually weathered recovered as stiff gravelly clay. Gravel is angular coarse.
			NI								*From 22.20m to 22.30m recovered as stiff gravelly clay. Gravel is angular coarse of sandstone.*
			NR					23.00	31.44		Very weak red brown fine grained SANDSTONE, extremely weathered with subhorizontal rough undulating close to medium spaced discontinuities.
			2					23.02	31.42		*From 22.55m to 23.00m bgl recovered as angular coarse gravel.*
			NI								*From 22.20m to 23.00m bgl occasional angular to subangular coarse gravel of chert.*
		23.36 - 23.56	C								NO RECOVERY.
		23.00 - 24.50	6	99	88	83					Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal stepped striated closely spaced discontinuities.
											From 23.30m to 23.36m bgl recovered as angular coarse cobbles.
			NI								*From 24.33m to 24.50m recovered as angular to subangular coarse gravel.*
			NI					24.50	29.94		Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth undulating closely spaced discontinuities.
			2								*From 24.50m to 24.60m bgl recovered as angular to subangular coarse gravel.*
			NI								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Rotary Core Log

Project Name: BRUNSWICK MILL	Client: ARROWSMITH INVESTMENT LIMITED	Date: 10/05/2023 - 12/05/2023
Location: MANCHESTER	Contractor:	Co-ords: E385741.30 N398644.50
Project No. : GRO-22462	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BH3	CP+RC	54.44m AoD	JR	1:25	Sheet 6 of 6

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		24.50 - 26.00	1 NI 1 NI 4 NI 1	100	80	71		26.00	28.44		Weak red brown fine grained SANDSTONE, moderately weathered with subhorizontal smooth undulating closely spaced discontinuities. *From 24.50m to 24.61m bgl yellow calcareous minerals present.* *From 24.86m to 25.02m bgl recovered as subrounded coarse cobbles.* *From 25.09m to 25.13m bgl recovered as subrounded coarse gravel.* *From 25.28m to 25.36m bgl recovered as subrounded coarse cobbles.* *From 25.89m to 25.91m bgl recovered as subangular coarse gravel.* End of Borehole at 26.000m

26
27
28
29
30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 20.0m bgl. 4. SPT refusals encountered at 19.0m and 19.5m bgl. 5. Cable percussion drilling terminated at 20.0m bgl. Rotary core follow on to 26.0m bgl. 7. Dual monitoring standpipes installed to 21.0m bgl and 3.0m bgl (18.0m plain, 3.0m slotted, and 1.0m plain, 2.0m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS01** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385776.00 - 398657.20	Hole Type WS
Location: MANCHESTER		Level: 53.59	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.20	53.39		MADE GROUND: Brown gravelly medium to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, sandstone and wood. Faint ashy organic odour. End of borehole at 0.20 m

1
2
3
4
5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to concrete obstruction. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS01A** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385776.70 - 398658.80	Hole Type WS
Location: MANCHESTER		Level: 53.55	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown gravelly medium to coarse sand with a moderate cobble content of brick and sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, fabric, sandstone and wood. Faint ashy organic odour.
								Becoming black at 0.7m bgl.
		1.00	ES					
		1.20		N=50 (3,5/50 for 60mm)				
					1.65	51.90		End of borehole at 1.65 m

1
2
3
4
5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No.
WS02
Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385782.15 - 398665.48	Hole Type WS
Location:	MANCHESTER		Level:	53.64	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.10	53.54		MADE GROUND: Brown gravelly medium to coarse sand with moderate cobble content of sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, fabric, sandstone and wood. End of borehole at 0.10 m

1
2
3
4
5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.1m bgl. 3. No groundwater encountered. 4. Borehole terminated due to sandstone boulder obstruction. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS02A** Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385781.17 - 398666.27	Hole Type WS
Location:	MANCHESTER		Level:	53.70	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown black gravelly medium to coarse sand with moderate cobble content of sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, sandstone and wood. Faint ashy organic odour.
		1.00	D					
		1.20		N=12 (1,4/3,3,3,3)				
		1.50	ES					
		2.00		N=50 (9,11/50 for 30mm)	2.00	51.70		End of borehole at 2.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Monitoring standpipe installed to 2.0m bgl (1.0m plain, 1.0m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS03**

Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385789.18 - 398678.50	Hole Type WS
Location:	MANCHESTER		Level:	53.75	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown black gravelly medium to coarse sand with moderate cobble content of brick and sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, sandstone and wood.
		1.00	D					
		1.20		N=13 (3,3/4,3,3,3)				
		1.50	ES					
		2.00		N=28 (25 for 60mm/4,4,8,12)	2.00	51.75		End of borehole at 2.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS04**

Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385803.87 - 398685.93	Hole Type WS
Location:	MANCHESTER		Level:	53.61	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown black gravelly fine to coarse sand with moderate cobble content of brick and sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, roof slates, sandstone and wood. Faint ashy organic odour.
		1.00	D					*Becoming very sandy at 1.0m bgl.*
		1.20		N=11 (3,3/3,3,3,2)				
		1.50	ES					
		2.00		N=50 (6,9/50 for 50mm)	2.00	51.61		End of borehole at 2.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS05**

Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385819.00 - 398704.58	Hole Type WS
Location:	MANCHESTER		Level:	53.72	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, roof slates, sandstone and wood.
		1.20		N=8 (2,0/2,2,2,2)				
		1.50	ES					
		2.00		N=50 (25 for 50mm/50 for 10mm)	2.00	51.72		End of borehole at 2.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Monitoring standpipe installed to 2.0m bgl (1.0m plain, 1.0m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS06** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385830.31 - 398706.55	Hole Type WS
Location: MANCHESTER		Level: 53.38	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.60	52.78		MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, glass, paper, plastic, rubber, sandstone and wood. Faint ashy organic odour.
								End of borehole at 0.60 m

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Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.6m bgl. 3. No groundwater encountered. 4. Borehole terminated due to brick obstruction. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS06A** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385828.15 - 398704.56	Hole Type WS
Location: MANCHESTER		Level: 53.47	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.60	52.87		MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick and a faint hydrocarbon odour. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, plastic, sandstone and wood.
								End of borehole at 0.60 m

1
2
3
4
5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.6m bgl. 3. No groundwater encountered. 4. Borehole terminated due to concrete obstruction. 5. Backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS07**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385814.06 - 398711.63	Hole Type WS
Location: MANCHESTER		Level: 53.61	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.80	52.81		MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, plastic, sandstone and wood.
								End of borehole at 0.80 m

1
2
3
4
5

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.8m bgl. 3. No groundwater encountered. 4. Borehole terminated due to concrete obstruction. 5. Backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS07A**

Sheet 1 of 1

Project Name:	BRUNSWICK MILL	Project No. GRO-22462	Co-ords:	385813.25 - 398711.65	Hole Type WS
Location:	MANCHESTER		Level:	53.74	Scale 1:25
Client:	ARROWSMITH INVESTMENT LIMITED		Dates:	04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, fabric, plastic, sandstone and wood.
		1.00	ES					
		1.20		N=3 (1,1/0,1,1,1)				
		1.50		N=50 (25 for 0mm/50 for 0mm)				
					1.95	51.79		End of borehole at 1.95 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated due to SPT refusal. 5. Monitoring standpipe installed to 1.5m bgl (1.0m plain, 0.5m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS08** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385763.49 - 398679.02	Hole Type WS
Location: MANCHESTER		Level: 53.97	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 04/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, ceramics, sandstone and wood.
		1.20		N=4 (1,1/1,1,1,1)				
		1.50	ES					*Becoming very sandy at 1.4m bgl.*
		2.00		N=8 (1,0/2,2,2,2)				
					2.20	51.77		
		2.50	ES					Stiff brown mottled grey gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including coal, shale and sandstone.
		3.00 3.00	D	N=28 (4,4/5,7,8,8)				
		4.00 4.00	D	N=17 (4,4/4,4,4,5)	4.00	49.97		End of borehole at 4.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated at 4.0m bgl. 5. Monitoring standpipe installed to 4.0m bgl (1.0m plain, 3.0m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS09** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: -	Hole Type WS
Location: MANCHESTER		Level:	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 05/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Paving cobbles.
		0.50	ES					MADE GROUND: Dark brown slightly clayey ashy gravelly medium to coarse sand with a low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, ash, tarmac and slag. Faint ashy organic odour odour.
					0.90			End of borehole at 0.90 m

1
2
3
4
5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.9m bgl. 3. No groundwater encountered. 4. Borehole terminated due to drain encountered at 0.9m bgl. 5. Backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS10**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: -	Hole Type WS
Location: MANCHESTER		Level:	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 05/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Paving cobbles.
		0.50	ES					MADE GROUND: Dark grey black slightly clayey ashy gravelly medium to coarse sand with a low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and slag. Mild ashy organic odour.
		1.20 1.20	ES	N=2 (1,0/0,1,0,1)				*Becoming very clayey from 1.2m to 1.5m bgl.*
					1.50			Firm brown mottled grey slightly sandy CLAY. Sand is medium to coarse.
		1.70	ES					
		2.00 2.00	D	N=15 (2,3/3,4,4,4)				
		3.00 3.00	D	N=13 (4,4/4,3,3,3)	3.00			Medium dense brown clayey fine to medium SAND.
					3.50			Firm brown mottled grey slightly sandy CLAY. Sand is medium to coarse.
		4.00 4.00	D	N=32 (6,6/8,8,8,8)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Borehole terminated at 4.0m bgl. 5. Backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS11** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: -	Hole Type WS
Location: MANCHESTER		Level:	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED		Dates: 05/05/2023 -	Logged By JR

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Paving cobbles.
		0.50	ES					MADE GROUND: Dark grey black slightly clayey ashy gravelly medium to coarse sand with low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and slag. Faint ashy organic odour.
		1.20		N=8 (2,2/2,2,2,2)	1.25			
		1.50	ES					MADE GROUND: Firm dark grey slightly ashy gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, and sandstone. Moderate hydrocarbon odour.
		2.00		N=20 (4,4/4,5,5,6)				
		2.50	ES		2.45			Firm brown mottled grey slightly sandy CLAY. Sand is medium to coarse.
								Band of fine to coarse sand at 2.7m to 2.9m bgl.
		3.00	D					
	▼	3.00		N=20 (3,4/5,5,5,5)				
		4.00	D		4.00			End of borehole at 4.00 m
		4.00		N=33 (7,8/7,8,9,9)				

1 2 3 4 5

Remarks
1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 3.45m bgl. 4. Borehole terminated at 4.0m bgl. 5. Backfilled with arisings.

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **TP01** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385783.28 - 398662.21 Level: 53.55	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 2.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES		0.55	53.00		MADE GROUND: Brown gravelly medium to coarse sand with moderate cobble content of brick and sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, glass, sandstone and wood. Faint ashy organic odour.
▼	1.00	ES					MADE GROUND: Dark grey black slightly clayey slightly sandy angular to subangular fine to coarse gravel of brick, concrete, metal, rubber, fabric, wood, tarmac, sandstone and plastic with moderate cobble content of brick. Sand is medium to coarse. Moderate hydrocarbon odour.
	2.00	ES		2.20	51.35		End of pit at 2.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Groundwater encountered at 1.3m bgl. 3. Pit terminated on concrete slab and brick wall at 2.2m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **TP02**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385750.00 - 398665.67 Level: 53.78	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.80	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES					MADE GROUND: Brown gravelly fine to coarse sand with moderate cobble content of brick. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, concrete, metal, wood, plastic and fabric. Faint ashy organic odour.
	1.50	ES					
				1.80	51.98		End of pit at 1.80 m

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4
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Remarks: 1. Location cleared with hand held CAT scanner. 2. No groundwater encountered. 3. Pit terminated on concrete slab at 1.8m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **TP03**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385778.21 - 398675.74 Level: 53.83	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.50	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES					MADE GROUND: Brown gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, tarmac and wood.
	1.00	ES					
	1.50	ES		1.50	52.33		End of pit at 1.50 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. No groundwater encountered. 3. Backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP04**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385799.57 - 398679.68 Level: 53.75	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 3.00	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Brown black gravelly medium to coarse sand with a moderate cobble content of brick and sandstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, metal, concrete, sandstone and wood. Faint ashy organic odour.
	1.00	ES					
	2.00	ES					
▼	3.00	ES		3.00	50.75		End of pit at 3.00 m

Remarks: 1. Location cleared with hand held CAT scanner. 2. Groundwater encountered at 3.0m bgl. 3. Hole terminated due to pit side collapse from 2.8m bgl. 4. Backfilled with arisings.

Stability: Unstable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385738.54 - 398639.63 Level: 54.47	Date 10/05/2023
Location: MANCHESTER		Dimensions (m): Depth 2.80	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Dark brown very sandy angular to subangular fine to coarse gravel of brick, sandstone, concrete, fabric, plastic, slate and metal with high cobble content of brick.
	1.00	ES					
	2.00	ES					
	2.70	ES	HVP=48	2.70	51.77		Firm medium strength grey mottled brown slightly sandy CLAY. Sand is fine to coarse.
				2.80	51.67		End of pit at 2.80 m

Remarks: 1. Location cleared with hand held CAT scanner. 2. No groundwater encountered. 3. Hole terminated due to pit side collapse from 2.6m bgl. 4. Backfilled with arisings.

Stability: Unstable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **TP06** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385754.11 - 398636.68 Level: 54.85	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 2.80	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Dark brown very sandy angular to subangular fine to coarse gravel of brick, sandstone, concrete, fabric, plastic, slate and metal with moderate cobble content of brick.
	1.00	ES					
	2.00	ES					
	2.50	ES					
	2.70	ES	HVP=53	2.70	52.15		Firm medium strength grey mottled brown slightly sandy CLAY. Sand is fine to coarse.
				2.80	52.05		End of pit at 2.80 m

Remarks: 1. Location cleared with hand held CAT scanner. 2. No groundwater encountered. 3. Pit side collapse from 2.6m bgl. 4. Backfilled with arisings.

Stability: Unstable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **TP07** Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: 385785.98 - 398697.12 Level: 53.82	Date 10/05/2023
Location: MANCHESTER		Dimensions (m): Depth 2.70	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.50	ES					MADE GROUND: Brown black gravelly medium to coarse sand with moderate cobble content of brick and concrete. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, metal, concrete, sandstone and wood. Faint ashy organic odour.
	1.00	ES					
	2.00	ES					
	2.60	ES	HVP=45	2.60 2.70	51.22 51.12		Stiff medium strength brown mottled grey gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including coal, shale and sandstone. End of pit at 2.70 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. No groundwater encountered. 3. Pit side collapse from 2.5m bgl. 4. Backfilled with arisings.

Stability: Unstable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP01**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 0.70	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.15			MADE GROUND: Paving cobbles.
	0.50	ES					MADE GROUND: Dark brown slightly clayey slightly ashy gravelly medium to coarse sand with low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and slag. Faint ashy organic odour.
							Pipe encountered at 0.45m bgl.
				0.70			End of pit at 0.70 m

1
2
3
4
5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.7m bgl. 3. No groundwater encountered. 4. Pipe encountered at 0.45m bgl. 5. Hole terminated due to brick obstruction. 6. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP02**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.05			MADE GROUND: Concrete.
							MADE GROUND: Paving cobbles.
				0.20			MADE GROUND: Dark grey black slightly ashy slightly clayey gravelly medium to coarse sand with a low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and slag. Mild ashy organic odour.
	0.50	ES					
				1.00			Soft brown CLAY.
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP03**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.15			MADE GROUND: Paving cobbles.
	0.50	ES					MADE GROUND: Dark grey black slightly clayey slightly ashy gravelly medium to coarse sand with a low cobble content of brick. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and slag. Faint ashy organic odour. *Pipe encountered at 0.25m bgl.*
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Pipe encountered at 0.25m bgl. 5. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP04**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 09/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Concrete.
	0.50	ES					MADE GROUND: Soft to firm dark grey brown gravelly sandy clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete and sandstone. Sand is medium to coarse.
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP05**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 10/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.03			MADE GROUND: Chipboard.
				0.10			MADE GROUND: Wooden planks.
				0.20			MADE GROUND: Sandstone slab.
	0.50	ES					MADE GROUND: Grey brown clayey gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, wood, sandstone and concrete.
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP06**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 10/05/2023
Location: MANCHESTER		Dimensions (m): Depth 0.70	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.20			MADE GROUND: Concrete.
	0.50	ES		0.70			MADE GROUND: Soft to firm dark brown gravelly sandy clay. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete and sandstone. Sand is medium to coarse.
							End of pit at 0.70 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.7m bgl. 3. No groundwater encountered. 4. Hole terminated due to footing obstruction. 5. Backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **HP07**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 10/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.02			MADE GROUND: Chipboard.
							MADE GROUND: Wooden planks.
				0.20			MADE GROUND: Concrete.
				0.40			MADE GROUND: Soft brown gravelly sandy clay. Gravel is angular to subangular fine to coarse including brick, concrete and wood. Sand is medium to coarse.
▼	0.50	ES					
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 1.0m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP08**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 11/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.02			MADE GROUND: Chipboard.
				0.15			MADE GROUND: Wooden planks.
							MADE GROUND: Concrete.
				0.35			MADE GROUND: Dark brown gravelly clayey medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and wood.
	0.50	ES					
▼				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 1.2m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP09**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 11/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Concrete.
	0.50	ES					MADE GROUND: Grey brown slightly clayey gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, wood, sandstone and concrete.
▼				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. Groundwater encountered at 1.2m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP10**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 11/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.00	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
				0.10			MADE GROUND: Concrete.
	0.50	ES					MADE GROUND: Grey brown clayey gravelly medium to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, wood, sandstone and concrete.
▼				1.00			End of pit at 1.00 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.0m bgl. 3. Groundwater encountered at 1.0m bgl. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP11**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 11/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES					MADE GROUND: Dark brown black gravelly medium to coarse sand with moderate cobble content of brick, wood and metal. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, plastic, metal, fabric, glass, wood, rubber, paper and ceramics. Strong hydrocarbon odour.
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP12**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 12/05/2023
Location: MANCHESTER		Dimensions (m): Depth 0.50	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.50			MADE GROUND: Dark brown gravelly medium to coarse sand with moderate cobble content of brick, wood and metal. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete, plastic, metal, fabric, glass, wood, rubber, paper and ceramics. Moderate ashy organic odour.
							End of pit at 0.50 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 0.5m bgl. 3. No groundwater encountered. 4. Hole terminated due to collapse. 5. Backfilled with arisings.

Stability: Unstable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP13**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 12/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES					MADE GROUND: Dark brown very sandy angular to subangular fine to coarse gravel of brick, sandstone, concrete, fabric, plastic, slate and metal with a moderate cobble content of brick. *Sub-floor void encountered from 0.1m to 0.4m bgl.*
				1.20			End of pit at 1.20 m

1 2 3 4 5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

Trial Pit Log

GROUNDTECH CONSULTING

Trialpit No **HP13A**

Sheet 1 of 1

Project Name: BRUNSWICK MILL	Project No. GRO-22462	Co-ords: - Level:	Date 12/05/2023
Location: MANCHESTER		Dimensions (m): Depth 1.20	Scale 1:25
Client: ARROWSMITH INVESTMENT LIMITED			Logged JR

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES					MADE GROUND: Dark brown very sandy angular to subangular fine to coarse gravel of brick, sandstone, concrete, fabric, plastic, slate and metal with a high cobble content of brick.
				1.20			End of pit at 1.20 m

1
2
3
4
5

Remarks: 1. Location cleared with hand held CAT scanner. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Backfilled with arisings.

Stability: Stable

APPENDIX 4 - Geo-Environmental Testing Results (Soils)

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

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Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE

Attention :	Jacob Roby
Date :	5th June, 2023
Your reference :	GRO-22462
Our reference :	Test Report 23/7686 Batch 1
Location :	Brunswick Mill
Date samples received :	16th May, 2023
Status :	Final Report
Issue :	1

Sixty six samples were received for analysis on 16th May, 2023 of which twenty nine were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Element Materials Technology Environmental UK Limited
Registered in England and Wales
Registered Office: 3rd Floor Davidson Building, 5 Southampton Street, London WC2E 7HA
Company Registration No: 11371415

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	1-3	4-6	7-9	13-15	16-18	19-21	25-27	28-30	31-33	34-36	LOD/LOR	Units	Method No.
Sample ID	HP01	HP02	HP03	HP05	HP06	HP07	HP09	HP10	HP11	HP12			
Depth	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	09/05/2023	09/05/2023	09/05/2023	10/05/2023	10/05/2023	10/05/2023	11/05/2023	11/05/2023	11/05/2023	12/05/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023			
Arsenic #	17.3	71.9	27.8	18.1	10.4	8.5	23.2	11.3	43.7	10.6	<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Chromium #	84.1	70.8	44.3	54.2	49.1	48.3	44.8	81.3	66.3	47.5	<0.5	mg/kg	TM30/PM15
Copper #	63	142	1477 AC	81	29	31	88	38	268 AB	254 AB	<1	mg/kg	TM30/PM15
Lead #	296	155	272	72	16	14	115	133	981	204	<5	mg/kg	TM30/PM15
Mercury #	0.4	0.7	0.4	1.2	<0.1	<0.1	0.3	0.4	0.3	0.2	<0.1	mg/kg	TM30/PM15
Nickel #	42.0	65.4	39.2	43.5	43.6	42.0	48.8	25.4	51.1	21.9	<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	71	127	226	256	75	75	55	65	399	210	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.06	0.40	26.83 AC	0.05	<0.04	<0.04	0.53	1.50	2.78 AC	0.19	<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.04	0.16	1.37 AC	0.05	<0.03	<0.03	0.22	1.78	<0.30 AC	0.14	<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.15	0.34	54.06 AC	<0.05	<0.05	<0.05	0.41	1.37	10.06 AC	0.21	<0.05	mg/kg	TM4/PM8
Fluorene #	0.16	0.37	33.12 AC	0.07	<0.04	<0.04	0.46	2.04	14.62 AC	0.19	<0.04	mg/kg	TM4/PM8
Phenanthrene #	1.69	5.44	>>274.34 AC	0.98	<0.03	<0.03	5.48	15.97	38.90 AC	2.15	<0.03	mg/kg	TM4/PM8
Anthracene #	0.47	1.14	71.85 AC	0.20	<0.04	<0.04	1.30	5.22	5.09 AC	0.60	<0.04	mg/kg	TM4/PM8
Fluoranthene #	1.59	5.77	>>291.31 AC	0.87	<0.03	<0.03	5.40	14.39	8.41 AC	4.05	<0.03	mg/kg	TM4/PM8
Pyrene #	1.55	5.64	>>250.97 AC	0.96	<0.03	<0.03	5.60	14.49	9.26 AC	3.82	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.83	2.62	110.20 AC	0.51	<0.06	<0.06	2.62	8.13	3.05 AC	2.00	<0.06	mg/kg	TM4/PM8
Chrysene #	0.86	2.85	106.60 AC	0.55	<0.02	<0.02	2.87	7.31	4.35 AC	2.16	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	1.04	3.90	166.47 AC	0.77	<0.07	<0.07	3.80	8.84	4.09 AC	3.65	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.67	2.32	107.79 AC	0.48	<0.04	<0.04	2.44	5.92	2.11 AC	2.34	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.27	1.19	61.48 AC	0.24	<0.04	<0.04	1.11	2.44	1.26 AC	1.22	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.07	0.22	10.87 AC	<0.04	<0.04	<0.04	0.24	0.46	<0.40 AC	0.25	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.31	1.29	64.20 AC	0.26	<0.04	<0.04	1.16	2.55	1.42 AC	1.33	<0.04	mg/kg	TM4/PM8
PAH 16 Total	9.8	33.7	1631.5 AC	6.0	<0.6	<0.6	33.6	92.4	105.4 AC	24.3	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.75	2.81	119.86 AC	0.55	<0.05	<0.05	2.74	6.36	2.94 AC	2.63	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.29	1.09	46.61 AC	0.22	<0.02	<0.02	1.06	2.48	1.15 AC	1.02	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	103	101	98 AC	100	88	74	98	101	104 AC	96	<0	%	TM4/PM8
VOC TICs	-	-	-	-	-	-	-	-	See Attached	ND		None	TM15/PM10
Methyl Tertiary Butyl Ether #	-	-	-	-	-	-	-	-	<2 SV	<2	<2	ug/kg	TM15/PM10
Benzene #	-	-	-	-	-	-	-	-	<3 SV	<3	<3	ug/kg	TM15/PM10
Toluene #	-	-	-	-	-	-	-	-	<3 SV	<3	<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	-	-	-	-	-	<3 SV	<3	<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	-	-	-	-	-	<5 SV	<5	<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	-	-	-	-	-	20 SV	<3	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	-	-	-	-	-	38 SV	75	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	-	-	-	-	-	56 SV	72	<0	%	TM15/PM10
SVOC TICs	-	-	-	-	-	-	-	-	See Attached	ND		None	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	1-3	4-6	7-9	13-15	16-18	19-21	25-27	28-30	31-33	34-36	LOD/LOR	Units	Method No.
Sample ID	HP01	HP02	HP03	HP05	HP06	HP07	HP09	HP10	HP11	HP12			
Depth	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	09/05/2023	09/05/2023	09/05/2023	10/05/2023	10/05/2023	10/05/2023	11/05/2023	11/05/2023	11/05/2023	12/05/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	-	-	-	-	-	-	-	0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	185.1 AA	1.3	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	2910 AA	15	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	4354 AA	59	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	2963 AA	410	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	-	-	-	-	-	-	-	10412 AA	485	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	124.7 AA	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	3531 AA	11	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	6909 AA	77	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	5342 AA	665	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	-	-	-	-	-	-	-	-	15907 AA	753	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	-	-	-	-	-	-	-	-	26319 AA	1238	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Benzene #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Toluene #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Natural Moisture Content	22.4	20.3	13.3	34.6	24.4	28.6	23.8	17.2	35.4	25.8	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	NDP	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0410	0.1015	1.1984	0.4907	0.3221	0.2491	0.1158	0.1276	1.7004	1.5186	<0.0015	g/l	TM38/PM20
Organic Matter	9.2	25.9	22.6	15.2	1.3	1.6	19.7	7.6	15.1	5.9	<0.2	%	TM21/PM24
pH #	8.68	8.68	7.95	8.22	8.67	8.44	8.53	8.75	NDP	7.65	<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	Chrysotile	NAD		None	Subcontracted
Asbestos PCOM Quantification*	-	-	-	-	-	-	-	-	<0.001	-	<0.001	mass %	Subcontracted
Asbestos Gravimetric Quantification*	-	-	-	-	-	-	-	-	0.57	-		mass %	Subcontracted

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	37-39	46-48	52-54	61-63	73-75	82-84	91-93	103-105	109-111	124-126	Please see attached notes for all abbreviations and acronyms		
Sample ID	HP13	TP01	TP02	TP03	TP04	TP05	TP06	TP06	TP07	WS01A			
Depth	0.50	1.00	0.50	1.00	2.00	1.00	0.50	2.70	1.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	12/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	13/05/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	LOD/LOR	Units	Method No.
Arsenic #	12.9	25.3	17.0	10.2	7.4	15.3	35.1	-	9.6	11.3	<0.5	mg/kg	TM30/PM15
Cadmium #	5.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	0.1	<0.1	<0.1	mg/kg	TM30/PM15
Chromium #	26.0	46.0	46.9	40.9	59.5	47.0	36.8	-	38.9	52.5	<0.5	mg/kg	TM30/PM15
Copper #	37	192	100	361 AB	98	107	153	-	64	43	<1	mg/kg	TM30/PM15
Lead #	142	1095	319	98	187	586	715	-	117	93	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.4	0.3	0.3	0.2	0.6	0.4	-	<0.1	0.2	<0.1	mg/kg	TM30/PM15
Nickel #	11.0	42.8	20.9	18.7	44.2	28.8	27.6	-	17.3	26.7	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	158	225	199	117	136	212	301	-	129	123	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.48	20.67 AC	0.81	0.26	0.22	0.12	0.10	-	0.48	0.49	<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.29	9.21 AC	0.34	0.13	0.11	0.07	0.05	-	0.27	0.13	<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.83	24.97 AC	1.66	0.28	0.93	<0.05	0.10	-	0.63	0.59	<0.05	mg/kg	TM4/PM8
Fluorene #	0.62	24.60 AC	1.45	0.27	0.91	<0.04	0.06	-	0.48	0.45	<0.04	mg/kg	TM4/PM8
Phenanthrene #	6.59	229.31 AC	11.18	2.24	3.95	0.63	0.89	-	5.15	3.30	<0.03	mg/kg	TM4/PM8
Anthracene #	1.27	58.04 AC	3.21	0.63	0.79	0.27	0.21	-	1.32	0.87	<0.04	mg/kg	TM4/PM8
Fluoranthene #	6.23	208.62 AC	13.88	3.01	3.80	1.39	1.35	-	8.53	5.25	<0.03	mg/kg	TM4/PM8
Pyrene #	5.69	216.46 AC	12.30	3.11	3.57	1.22	1.32	-	7.62	4.68	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	2.67	112.94 AC	5.99	1.53	1.64	0.69	0.59	-	3.97	2.22	<0.06	mg/kg	TM4/PM8
Chrysene #	2.97	110.74 AC	6.47	1.69	1.90	0.82	0.68	-	4.24	2.41	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	4.51	147.03 AC	10.36	2.75	2.30	1.55	1.03	-	6.97	4.05	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	2.57	95.13 AC	6.45	1.88	1.29	0.90	0.63	-	4.40	2.42	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	1.44	45.35 AC	3.61	1.03	0.83	0.63	0.36	-	2.71	1.52	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.23	12.07 AC	0.55	0.22	0.22	0.11	0.06	-	0.34	0.22	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	1.53	50.58 AC	3.68	0.99	0.92	0.73	0.42	-	2.75	1.43	<0.04	mg/kg	TM4/PM8
PAH 16 Total	37.9	1365.7 AC	81.9	20.0	23.4	9.1	7.9	-	49.9	30.0	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	3.25	105.86 AC	7.46	1.98	1.66	1.12	0.74	-	5.02	2.92	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	1.26	41.17 AC	2.90	0.77	0.64	0.43	0.29	-	1.95	1.13	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	96	97 AC	96	97	91	93	92	-	88	101	<0	%	TM4/PM8
VOC TICs	-	ND	ND	-	-	-	-	-	-	-		None	TM15/PM10
Methyl Tertiary Butyl Ether #	-	<2	<2	-	-	-	-	-	-	-	<2	ug/kg	TM15/PM10
Benzene #	-	9	<3	-	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Toluene #	-	17	<3	-	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Ethylbenzene #	-	22	<3	-	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
m/p-Xylene #	-	79	<5	-	-	-	-	-	-	-	<5	ug/kg	TM15/PM10
o-Xylene #	-	34	<3	-	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	67	72	-	-	-	-	-	-	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	61	69	-	-	-	-	-	-	-	<0	%	TM15/PM10
SVOC TICs	-	See Attached	See Attached	-	-	-	-	-	-	-		None	TM16/PM8

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	37-39	46-48	52-54	61-63	73-75	82-84	91-93	103-105	109-111	124-126	LOD/LOR	Units	Method No.
Sample ID	HP13	TP01	TP02	TP03	TP04	TP05	TP06	TP06	TP07	WS01A			
Depth	0.50	1.00	0.50	1.00	2.00	1.00	0.50	2.70	1.00	1.00			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	12/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	13/05/2023			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	<0.1 SV	<0.1	-	-	-	-	-	-	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	<0.1 SV	<0.1	-	-	-	-	-	-	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	0.3 SV	<0.1	-	-	-	-	-	-	0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	6.8	6.1	-	-	-	-	-	-	7.4	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	26	24	-	-	-	-	-	-	30	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	120	64	-	-	-	-	-	-	90	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	446	319	-	-	-	-	-	-	294	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	599	413	-	-	-	-	-	-	422	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	<0.1 SV	<0.1	-	-	-	-	-	-	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	<0.1 SV	<0.1	-	-	-	-	-	-	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	<0.1 SV	<0.1	-	-	-	-	-	-	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	6.0	0.7	-	-	-	-	-	-	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	75	21	-	-	-	-	-	-	16	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	740	169	-	-	-	-	-	-	87	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	1893	850	-	-	-	-	-	-	311	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	-	2714	1041	-	-	-	-	-	-	414	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	-	3313	1454	-	-	-	-	-	-	836	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	-	-	-	-	-	-	-	-	-	<5	<5	ug/kg	TM36/PM12
Benzene #	-	-	-	-	-	-	-	-	-	<5	<5	ug/kg	TM36/PM12
Toluene #	-	-	-	-	-	-	-	-	-	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	-	-	-	-	-	-	-	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	-	-	-	-	-	-	-	9	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	-	-	-	6	<5	ug/kg	TM36/PM12
Natural Moisture Content	13.2	30.1	14.7	17.5	13.9	18.9	21.4	-	13.1	16.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.1566	0.7809	0.4829	1.2846	1.1798	1.4750	0.0401	0.0353	0.2459	0.7040	<0.0015	g/l	TM38/PM20
Organic Matter	2.3	19.9	5.0	5.8	2.9	9.0	7.1	-	3.8	3.2	<0.2	%	TM21/PM24
pH #	8.18	8.06	8.11	8.60	7.76	8.56	8.38	7.89	8.22	8.14	<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	Amosite	NAD		None	Subcontracted
Asbestos PCOM Quantification*	-	-	-	-	-	-	-	-	<0.001	-	<0.001	mass %	Subcontracted
Asbestos Gravimetric Quantification*	-	-	-	-	-	-	-	-	0.002	-		mass %	Subcontracted

Please see attached notes for all abbreviations and acronyms

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All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	130-132	142-144	154-156	166-168	169-171	175-177	178-180	184-186	193-195		LOD/LOR	Units	Method No.
Sample ID	WS02	WS04	WS06	WS07A	WS08	WS08	WS09	WS10	WS11				
Depth	0.50	0.50	0.50	1.00	0.50	2.50	0.50	1.20	1.50				
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T				
Sample Date	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Batch Number	1	1	1	1	1	1	1	1	1				
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023				
Arsenic #	11.0	8.2	10.2	14.2	9.7	-	67.9	14.1	13.2		<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM30/PM15
Chromium #	40.0	47.6	37.8	45.8	39.8	-	68.7	56.6	58.1		<0.5	mg/kg	TM30/PM15
Copper #	62	64	81	71	327 AB	-	158	47	25		<1	mg/kg	TM30/PM15
Lead #	119	50	335	3285 AB	144	-	199	51	16		<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.2	1.2	0.1	0.3	-	0.6	0.3	0.1		<0.1	mg/kg	TM30/PM15
Nickel #	23.8	21.8	17.0	21.4	20.3	-	56.2	31.8	33.8		<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	-	2	1	<1		<1	mg/kg	TM30/PM15
Zinc #	140	101	438	207	113	-	152	57	56		<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.33	<0.40 AC	0.23	0.38	1.90	-	1.35	<0.04	0.33		<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.18	<0.30 AC	0.16	0.19	0.51	-	0.97	<0.03	0.05		<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.49	<0.50 AC	0.26	0.49	8.54	-	2.48	<0.05	0.38		<0.05	mg/kg	TM4/PM8
Fluorene #	0.38	<0.40 AC	0.25	0.38	6.17	-	2.68	<0.04	0.28		<0.04	mg/kg	TM4/PM8
Phenanthrene #	2.66	1.07 AC	2.19	4.14	>>45.71	-	25.74	0.26	1.92		<0.03	mg/kg	TM4/PM8
Anthracene #	0.77	<0.40 AC	0.63	0.98	15.78	-	8.33	0.09	0.52		<0.04	mg/kg	TM4/PM8
Fluoranthene #	4.70	1.32 AC	3.35	5.71	>>60.10	-	33.98	0.39	2.67		<0.03	mg/kg	TM4/PM8
Pyrene #	4.03	1.33 AC	3.10	5.25	>>48.86	-	32.57	0.42	2.43		<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	2.03	0.88 AC	1.59	2.49	>>26.46	-	16.59	0.20	1.19		<0.06	mg/kg	TM4/PM8
Chrysene #	2.13	1.15 AC	1.70	2.71	>>26.07	-	15.72	0.20	1.28		<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	3.31	1.25 AC	2.69	4.28	40.12	-	24.68	0.28	2.00		<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	2.06	0.66 AC	1.65	2.63	>>23.72	-	16.15	0.19	1.24		<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	1.07	<0.40 AC	0.95	1.55	13.80	-	9.45	0.11	0.75		<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.15	<0.40 AC	0.21	0.23	2.86	-	1.65	<0.04	0.14		<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	1.10	0.51 AC	0.96	1.51	13.99	-	9.81	0.12	0.74		<0.04	mg/kg	TM4/PM8
PAH 16 Total	25.4	8.2 AC	19.9	32.9	334.6	-	202.2	2.3	15.9		<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	2.38	0.90 AC	1.94	3.08	28.89	-	17.77	0.20	1.44		<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.93	0.35 AC	0.75	1.20	11.23	-	6.91	0.08	0.56		<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	98	101 AC	94	99	102	-	102	92	98		<0	%	TM4/PM8
VOC TICs	-	-	-	-	-	-	-	-	ND			None	TM15/PM10
Methyl Tertiary Butyl Ether #	-	-	-	-	-	-	-	-	<2		<2	ug/kg	TM15/PM10
Benzene #	-	-	-	-	-	-	-	-	<3		<3	ug/kg	TM15/PM10
Toluene #	-	-	-	-	-	-	-	-	<3		<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	-	-	-	-	-	<3		<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	-	-	-	-	-	<5		<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	-	-	-	-	-	<3		<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	-	-	-	-	-	87		<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	-	-	-	-	-	79		<0	%	TM15/PM10
SVOC TICs	-	-	-	-	-	-	-	-	ND			None	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

Report : Solid

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

EMT Sample No.	130-132	142-144	154-156	166-168	169-171	175-177	178-180	184-186	193-195				
Sample ID	WS02	WS04	WS06	WS07A	WS08	WS08	WS09	WS10	WS11				
Depth	0.50	0.50	0.50	1.00	0.50	2.50	0.50	1.20	1.50				
COC No / misc										Please see attached notes for all abbreviations and acronyms			
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T				
Sample Date	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023	13/05/2023				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Batch Number	1	1	1	1	1	1	1	1	1				
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023		LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	10.0	<0.2	<0.2	-	-	-	2.8	<0.2	<0.2		<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	38	4	5	-	-	-	11	<4	<4		<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	69	11	33	-	-	-	14	<7	<7		<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	577	45	205	-	-	-	45	<7	<7		<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	694	60	243	-	-	-	73	<19	<19		<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1 SV	<0.1	<0.1 SV	-	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	2.4	<0.2	1.0	-	-	-	2.1	<0.2	<0.2		<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	32	8	10	-	-	-	41	<4	<4		<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	125	39	65	-	-	-	385	<7	<7		<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	1270	183	589	-	-	-	898	<7	<7		<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	1429	230	665	-	-	-	1326	<19	<19		<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	2123	290	908	-	-	-	1399	<38	<38		<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	<5 SV	<5	<5 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
Benzene #	<5 SV	<5	<5 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
Toluene #	<5 SV	<5	<5 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
Ethylbenzene #	<5 SV	7	<5 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
m/p-Xylene #	<5 SV	13	<5 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
o-Xylene #	<5 SV	<5	7 SV	-	-	-	<5	<5	-		<5	ug/kg	TM36/PM12
Natural Moisture Content	13.8	12.4	23.0	13.7	9.4	-	22.9	35.7	27.7		<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3		<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.6605	0.5182	1.6551	0.1884	0.0462	0.0590	0.0459	0.3179	0.0481		<0.0015	g/l	TM38/PM20
Organic Matter	4.8	2.5	5.1	10.2	4.7	-	18.9	7.8	2.0		<0.2	%	TM21/PM24
pH #	7.54	7.65	7.33	8.50	8.44	8.28	8.33	7.85	7.88		<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD	NAD	NAD	-	NAD	NAD	NAD			None	Subcontracted
Asbestos PCOM Quantification*	-	-	-	-	-	-	-	-	-		<0.001	mass %	Subcontracted
Asbestos Gravimetric Quantification*	-	-	-	-	-	-	-	-	-			mass %	Subcontracted

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All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

SVOC Report : **Solid**

EMT Sample No.	31-33	34-36	46-48	52-54	193-195								
Sample ID	HP11	HP12	TP01	TP02	WS11								
Depth	0.50	0.50	1.00	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	11/05/2023	12/05/2023	11/05/2023	11/05/2023	13/05/2023								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023								
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	835	<10	<10						<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	1311	<10	<10						<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Methylphenol	429	<10	1726	<10	<10						<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Phenol #	383	<10	1242	<10	<10						<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	3627	53	9640	349	23						<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	3913	146	316	354	<100						<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	672	166	159	171	<100						<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Carbazole	<10	69	16162	473	50						<10	ug/kg	TM16/PM8
Dibenzofuran #	<10	45	9531	299	31						<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	121	119	115	115	118						<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	103	114	117	109	117						<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7686

VOC Report : **Solid**

EMT Sample No.	31-33	34-36	46-48	52-54	193-195							
Sample ID	HP11	HP12	TP01	TP02	WS11							
Depth	0.50	0.50	1.00	0.50	1.50							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	11/05/2023	12/05/2023	11/05/2023	11/05/2023	13/05/2023							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Chloromethane #	11 SV	8	<3	<3	<3						<3	ug/kg	TM15/PM10
Vinyl Chloride	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15_A/PM10
Bromomethane	<1 SV	<1	<1	<1	<1						<1	ug/kg	TM15/PM10
Chloroethane #	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6 SV	<6	<6	<6	<6						<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7 SV	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Bromochloromethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Chloroform #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Benzene #	<3 SV	<3	9	<3	<3						<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6 SV	<6	<6	<6	<6						<6	ug/kg	TM15/PM10
Dibromomethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Toluene #	<3 SV	<3	17	<3	<3						<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3 SV	<3	<3	<3	10						<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Chlorobenzene #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Ethylbenzene #	<3 SV	<3	22	<3	<3						<3	ug/kg	TM15/PM10
m/p-Xylene #	<5 SV	<5	79	<5	<5						<5	ug/kg	TM15/PM10
o-Xylene #	20 SV	<3	34	<3	<3						<3	ug/kg	TM15/PM10
Styrene	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15_A/PM10
Bromoform	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Bromobenzene	<2 SV	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Propylbenzene #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	106 SV	<3	30	<3	<3						<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3 SV	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5 SV	<5	<5	<5	<5						<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	459 SV	<6	129	8	<6						<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
4-Isopropyltoluene	314 SV	<4	22	<4	<4						<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
n-Butylbenzene	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7 SV	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4 SV	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Naphthalene	<27 SV	<27	861	165	<27						<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7 SV	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	38 SV	75	67	72	87						<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	56 SV	72	61	69	79						<0	%	TM15/PM10

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All solid results are expressed on a dry weight basis unless stated otherwise.

Job number: 23/7686
Sample number: 31
Sample identity: HP11
Sample depth: 0.50
Sample Type: Soil
Units: ug/kg

Method: VOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
	Carbonic acid, decyl vinyl ester	6.384	86	135
17302-28-2	Nonane, 2,6-dimethyl-	6.432	90	613
1758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	6.835	93	880
629-96-9	1-Eicosanol	6.878	87	2716
934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	7.027	91	1519
488-23-3	Benzene, 1,2,3,4-tetramethyl-	7.233	90	2604
95-93-2	Benzene, 1,2,4,5-tetramethyl-	7.263	95	1804
13632-94-5	Benzene, 1,4-diethyl-2-methyl-	7.663	86	5258
6682-71-9	1H-Indene, 2,3-dihydro-4,7-dimethyl-	8.000	93	4765

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Job number: 23/7686
Sample number: 32
Sample identity: HP11
Sample depth: 0.50
Sample Type: Soil
Units: ug/kg

Method: SVOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
2870-04-4	Benzene, 2-ethyl-1,3-dimethyl-	5.527	93	2137
99-87-6	p-Cymene	5.771	91	2183
933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	5.884	94	590
95-93-2	Benzene, 1,2,4,5-tetramethyl-	5.914	95	1018
3333-13-9	Benzene, 1-methyl-4-(2-propenyl)-	6.066	89	1955
2050-24-0	Benzene, 1,3-diethyl-5-methyl-	6.106	94	2621
768-00-3	Benzene, (1-methyl-1-propenyl)-, (E)-	6.146	89	4364
934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	6.187	93	2145
17059-48-2	1H-Indene, 2,3-dihydro-1,6-dimethyl-	6.479	90	5620
4706-89-2	Benzene, 2,4-dimethyl-1-(1-methylethyl)-	6.574	92	10531
700-12-9	Benzene, pentamethyl-	6.649	95	2585
6682-71-9	1H-Indene, 2,3-dihydro-4,7-dimethyl-	6.957	95	11862
91-57-6	Naphthalene, 2-methyl-	7.357	94	25029
54340-86-2	Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	7.450	86	5604
80655-44-3	Decahydro-1,1,4a,5,6-pentamethylnaphthalene	7.938	96	19355
581-42-0	Naphthalene, 2,6-dimethyl-	7.979 - 8.093	96,97	72569
571-61-9	Naphthalene, 1,5-dimethyl-	8.073	97	42548
313253-65-5	2-Pentanone, 4-cyclohexylidene-3,3-diethyl-	8.255	89	32101
3891-99-4	2,6,10-Trimethyltridecane	8.408	91	55487
2131-42-2	Naphthalene, 1,4,6-trimethyl-	8.665 - 9.030	95,96	23401
2245-38-7	Naphthalene, 1,6,7-trimethyl-	8.699 - 8.836	98,98,98,98	129495
829-26-5	Naphthalene, 2,3,6-trimethyl-	8.916	98	66697
643-93-6	1,1'-Biphenyl, 3-methyl-	9.053	91	13532
54774-89-9	Naphthalene, 2-methyl-1-propyl-	9.099	91	19710
529-05-5	Chamazulene	9.183	89	4105
3031-15-0	Naphthalene, 1,2,3,4-tetramethyl-	9.202 - 9.470	87,91,92,94	65719
3892-00-0	Pentadecane, 2,6,10-trimethyl-	9.403	93	20508
2717-39-7	1,4,5,8-Tetramethylnaphthalene	9.547	95	19762
613-33-2	4,4'-Dimethylbiphenyl	9.624	83	10267
7350-72-3	1,4-Methanonaphthalene,1,4-dihydro-9-((1-methylethylidene)-	9.772 - 9.871	84,86	13207

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Job number: 23/7686
Sample number: 32
Sample identity: HP11
Sample depth: 0.50
Sample Type: Soil
Units: ug/kg

Method: SVOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
	anthracene, 1,2-dihydro-10-methyl-	10.147	92	16566
31317-07-4	1-Methyldibenzothiophene	10.324	95	30229
	Bicyclo[3.2.2]non-2-ene, 2-phenyl-	10.413	93	20275
832-69-9	Phenanthrene, 1-methyl-	10.512	81	13866
2531-84-2	Phenanthrene, 2-methyl-	10.531	93	8714
832-64-4	Phenanthrene, 4-methyl-	10.610	86	22535
89816-75-1	2,6-Dimethyldibenzothiophene	10.779	97	13938
1136-85-2	3,7-Dimethyldibenzothiophene	10.872 - 10.941	96,96	41809
16587-34-1	Naphtho[2,3-b]thiophene, 4,9-dimethyl-	10.972	81	13627
1576-67-6	Phenanthrene, 3,6-dimethyl-	11.034	94	17560
3674-66-6	Phenanthrene, 2,5-dimethyl-	11.111	91	20685
	5(10H)-Pyrido[3,4-b]quinolone, 7-methoxy-	11.268	81	16740
36093-99-9	4-Thiazolemethanol, 2-(4-chlorophenyl)-	11.728	90	5776
300389-62-2	Benz[d]isoxazol-4(5H)-one, 6,7-dihydro-3-methyl-6-phenyl-, oxime	13.439	93	3858
646-31-1	Tetracosane	14.824 - 15.188	96,96	4662
	2-(4a,8-Dimethyl-6-oxo-1,2,3,4,4a,5,6,8a-octahydro-naphthalen-2-yl)-propionaldehyde	15.033	84	3373
53584-60-4	28-Nor-17.alpha.(H)-hopane	15.551	90	20376
62016-79-9	Heptacosane, 1-chloro-	15.961	98	4237

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Job number: 23/7686
Sample number: 47
Sample identity: TP01
Sample depth: 1.00
Sample Type: Soil
Units: ug/kg

Method: SVOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
92-52-4	Biphenyl	7.772	95	2197
1127-76-0	Naphthalene, 1-ethyl-	7.907	95	2849
581-42-0	Naphthalene, 2,6-dimethyl-	7.980	97	3630
582-16-1	Naphthalene, 2,7-dimethyl-	8.062 - 8.083	97,97	7646
829-26-5	Naphthalene, 2,3,6-trimethyl-	8.722	98	2398
2489-86-3	Naphthalene, 1-(2-propenyl)-	9.087	81	4727
7320-53-8	Dibenzofuran, 4-methyl-	9.260	93	8847
1730-37-6	9H-Fluorene, 1-methyl-	9.586	98	3187
486-25-9	9H-Fluoren-9-one	9.713	94	8888
132-65-0	Dibenzothiophene	9.832	95	13727
262-89-5	Dibenzo[a,e]cyclooctene	10.295	94	9489
2531-84-2	Phenanthrene, 2-methyl-	10.502 - 10.532	96,97	40691
613-12-7	Anthracene, 2-methyl-	10.571	96	7368
203-64-5	4H-Cyclopenta[def]phenanthrene	10.601	93	30466
84-65-1	9,10-Anthracenedione	10.756	93	5490
612-94-2	Naphthalene, 2-phenyl-	10.803	96	16694
3674-75-7	Phenanthrene, 9-ethyl-	10.911	90	2729
52251-71-5	Anthracene, 2-ethyl-	10.988	93	10742
1576-67-6	Phenanthrene, 3,6-dimethyl-	11.027 - 11.135	93,93	12010
452049-62-6	Spiro[cyclopropane-1,8'(1H')[3a.6]methano[3ah]cyclopentacycloocten]-10'-one, octahydro-, (3'as,6'R,9'ar)-	11.112	90	14017
205-39-0	Benzo(b)naphtho(1,2-d)furan	11.527	95	9878
313-80-4	Naphtho(2,1,8-def)quinoline	11.563	96	3856
243-17-4	11H-Benzo[b]fluorene	11.822	94	46353
2381-21-7	Pyrene, 1-methyl-	11.901 - 12.074	87,96	24977
33543-31-6	Fluoranthene, 2-methyl-	11.937	95	18244
3353-12-6	Pyrene, 4-methyl-	12.045	98	11407
479-79-8	11H-Benzo[a]fluoren-11-one	12.391	96	15219
195-19-7	Benzo[c]phenanthrene	12.578	90	15123
205-25-4	7H-Benzo[c]carbazole	13.088	94	8295
3351-28-8	Chrysene, 1-methyl-	13.448	96	22628

Job number: 23/7686
Sample number: 47
Sample identity: TP01
Sample depth: 1.00
Sample Type: Soil
Units: ug/kg

Method: SVOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
64414-61-5	Azacyclotridecan-2-one, 1-(3-aminopropyl)-	13.560	90	11702
1705-85-7	Chrysene, 6-methyl-	13.616	95	9038
192-97-2	Benzo[e]pyrene	14.399 - 14.575	96,98	88070
3343-10-0	Benz[j]aceanthrylene, 3-methyl-	15.033	91	11371
955-66-8	5H-Dibenzo[c,f][1,2]diazepine, 3,8-dichloro-6,11-dihydro-	15.180	92	8516

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Job number: 23/7686
Sample number: 53
Sample identity: TP02
Sample depth: 0.50
Sample Type: Soil
Units: ug/kg

Method: SVOC
Matrix: Solid

Note: Only samples with TICs (if requested) are reported. If TICs were requested but no compounds found they are not reported.

CAS No.	Tentative Compound Identification	Retention Time (minutes)	% Match	Concentration
7320-53-8	Dibenzofuran, 4-methyl-	9.259	90	336
1430-97-3	9H-Fluorene, 2-methyl-	9.586	95	284
262-89-5	Dibenzo[a,e]cyclooctene	10.295	86	343
2531-84-2	Phenanthrene, 2-methyl-	10.522	96	665
779-02-2	Anthracene, 9-methyl-	10.571	96	514
203-64-5	4H-Cyclopenta[def]phenanthrene	10.600	93	1957
313-80-4	Naphtho(2,1,8-def)quinoline	11.563	92	396
243-42-5	Benzo[b]naphtho[2,3-d]furan	11.585	93	372
33543-31-6	Fluoranthene, 2-methyl-	11.721 - 11.815	96,96	3556
243-17-4	11H-Benzo[b]fluorene	11.894	92	1263
2381-21-7	Pyrene, 1-methyl-	11.937	95	961
3353-12-6	Pyrene, 4-methyl-	12.038	92	397
479-79-8	11H-Benzo[a]fluoren-11-one	12.376	91	518
191-30-0	1,2,9,10-Dibenzopyrene	12.635 - 13.543	83,96	1592
192-65-4	1,2:4,5-Dibenzopyrene	12.678	95	1397
5385-75-1	Dibenz(a,e)aceanthrylene	12.714	95	2233
	1-(2-Aminobenzylidene)-1,2,3,4-tetrahydroacridine N-oxide	13.032 - 13.080	95,97	1075
3351-28-8	Chrysene, 1-methyl-	13.439	98	946
192-97-2	Benzo[e]pyrene	14.559	96	3463

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited

Reference: GRO-22462

Location: Brunswick Mill

Contact: Jacob Roby

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
23/7686	1	HP11	0.50	31-33	Degraded diesel, Possible lubricating oil & Possible tarmac/bitumen
23/7686	1	HP12	0.50	34-36	PAH's, Trace of possible degraded diesel, Possible lubricating oil & Tarmac/bitumen
23/7686	1	TP01	1.00	46-48	PAH's, Possible degraded diesel, Possible lubricating oil & Possible tarmac/bitumen
23/7686	1	TP02	0.50	52-54	PAH's, Possible lubricating oil, Trace of possible degraded diesel & Possible tarmac/bitumen
23/7686	1	WS01A	1.00	124-126	PAH's, Possible lubricating oil, Trace of possible degraded diesel & Possible tarmac/bitumen
23/7686	1	WS02	0.50	130-132	PAH's, Possible lubricating oil, Trace of possible degraded diesel & Possible tarmac/bitumen
23/7686	1	WS04	0.50	142-144	PAH's & Possible tarmac/bitumen
23/7686	1	WS06	0.50	154-156	PAH's & Trace of lubricating oil
23/7686	1	WS09	0.50	178-180	PAH's & Degraded kerosene
23/7686	1	WS10	1.20	184-186	No interpretation possible
23/7686	1	WS11	1.50	193-195	No interpretation possible

Client Name: Groundtech Consulting Limited

Reference: GRO-22462

Location: Brunswick Mill

Contact: Jacob Roby

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Method No.	NDP Reason
23/7686	1	HP11	0.50	31-33	TM73/PM11	Oily sample unsuitable for this test
23/7686	1	HP11	0.50	31-33	TM38/PM20	Sample contains compounds that interfere with this test

Client Name: Groundtech Consulting Limited

Reference: GRO-22462

Location: Brunswick Mill

Contact: Jacob Roby

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
23/7686	1	HP01	0.50	1-3	PAH	Sample holding time exceeded
23/7686	1	HP02	0.50	4-6	PAH	Sample holding time exceeded
23/7686	1	HP03	0.50	7-9	PAH	Sample holding time exceeded
23/7686	1	HP05	0.50	13-15	PAH	Sample holding time exceeded
23/7686	1	HP06	0.50	16-18	PAH	Sample holding time exceeded
23/7686	1	HP07	0.50	19-21	PAH	Sample holding time exceeded

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.

Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/7686

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

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

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

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

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x3 Dilution
AB	x5 Dilution
AC	x10 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/7686

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes

EMT Job No: 23/7686

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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Attention :	Jacob Roby
Date :	8th June, 2023
Your reference :	GRO-22462
Our reference :	Test Report 23/7677 Batch 1
Location :	Brunswick Mill
Date samples received :	16th May, 2023
Status :	Final Report
Issue :	1

Sixteen samples were received for analysis on 16th May, 2023 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Liza Klebe
Project Co-ordinator

Please include all sections of this report if it is reproduced

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/7677

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-6	28-30	40-42								LOD/LOR	Units	Method No.
Sample ID	BH01	BH02	BH03										
Depth	0.50	2.00	1.00										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	11/05/2023	11/05/2023	11/05/2023										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	16/05/2023	16/05/2023	16/05/2023										
Arsenic #	7.7	8.6	8.2								<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Chromium #	44.8	42.1	33.9								<0.5	mg/kg	TM30/PM15
Copper #	28	32	19								<1	mg/kg	TM30/PM15
Lead #	82	77	123								<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.3	0.2								<0.1	mg/kg	TM30/PM15
Nickel #	18.6	15.1	9.4								<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1								<1	mg/kg	TM30/PM15
Zinc #	62	78	54								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	0.14	0.12	1.07								<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.08	0.11	0.17								<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.36	0.07	1.31								<0.05	mg/kg	TM4/PM8
Fluorene #	0.24	0.08	1.22								<0.04	mg/kg	TM4/PM8
Phenanthrene #	2.42	0.85	9.76								<0.03	mg/kg	TM4/PM8
Anthracene #	0.62	0.40	1.63								<0.04	mg/kg	TM4/PM8
Fluoranthene #	3.61	1.41	9.46								<0.03	mg/kg	TM4/PM8
Pyrene #	3.31	1.24	8.95								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	1.55	0.66	4.01								<0.06	mg/kg	TM4/PM8
Chrysene #	1.57	0.78	4.97								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	2.62	1.34	6.73								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.67	0.80	3.83								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.94	0.52	2.33								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.11	0.08	0.47								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.85	0.53	2.38								<0.04	mg/kg	TM4/PM8
PAH 16 Total	20.1	9.0	58.3								<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	1.89	0.96	4.85								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.73	0.38	1.88								<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	103	99	100								<0	%	TM4/PM8
Natural Moisture Content	13.1	17.9	14.2								<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3								<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.2677	0.6562	0.9272								<0.0015	g/l	TM38/PM20
Organic Matter	2.9	2.9	1.4								<0.2	%	TM21/PM24
pH #	11.63	8.80	9.13								<0.01	pH units	TM73/PM11
Asbestos Type*	NAD	NAD	NAD									None	Subcontracted

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/7677						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/7677

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

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

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

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

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/7677

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	

APPENDIX 5 - Geo-Environmental Testing Results (Groundwater)

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Attention :	Jacob Roby
Date :	6th July, 2023
Your reference :	GRO-22462
Our reference :	Test Report 23/10147 Batch 1
Location :	Brunswick Mill
Date samples received :	22nd June, 2023
Status :	Final Report
Issue :	1

Two samples were received for analysis on 22nd June, 2023 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/10147

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, HN=$HN0_3$

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-8	9									LOD/LOR	Units	Method No.
Sample ID	BH01	BH03											
Depth													
COC No / misc													
Containers	V H HNUF N Z P G	P											
Sample Date	19/06/2023	19/06/2023											
Sample Type	Ground Water	Ground Water											
Batch Number	1	1											
Date of Receipt	22/06/2023	22/06/2023											
Dissolved Arsenic #	<2.5	2.7									<2.5	ug/l	TM30/PM14
Dissolved Boron	154	126									<12	ug/l	TM30/PM14
Dissolved Cadmium #	<0.5	0.5									<0.5	ug/l	TM30/PM14
Total Dissolved Chromium #	<1.5	<1.5									<1.5	ug/l	TM30/PM14
Dissolved Copper #	<7	<7									<7	ug/l	TM30/PM14
Dissolved Lead #	<5	<5									<5	ug/l	TM30/PM14
Dissolved Mercury #	<1	<1									<1	ug/l	TM30/PM14
Dissolved Nickel #	10	10									<2	ug/l	TM30/PM14
Dissolved Selenium #	<3	<3									<3	ug/l	TM30/PM14
Dissolved Zinc #	5	14562 AB									<3	ug/l	TM30/PM14
PAH MS													
Naphthalene #	<0.1	-									<0.1	ug/l	TM4/PM30
Acenaphthylene #	0.040	-									<0.005	ug/l	TM4/PM30
Acenaphthene #	0.060	-									<0.005	ug/l	TM4/PM30
Fluorene #	0.031	-									<0.005	ug/l	TM4/PM30
Phenanthrene #	0.364	-									<0.005	ug/l	TM4/PM30
Anthracene #	0.093	-									<0.005	ug/l	TM4/PM30
Fluoranthene #	0.839	-									<0.005	ug/l	TM4/PM30
Pyrene #	0.883	-									<0.005	ug/l	TM4/PM30
Benzo(a)anthracene #	0.447	-									<0.005	ug/l	TM4/PM30
Chrysene #	0.405	-									<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene #	0.702	-									<0.008	ug/l	TM4/PM30
Benzo(a)pyrene #	0.402	-									<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene #	0.233	-									<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene #	0.056	-									<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene #	0.259	-									<0.005	ug/l	TM4/PM30
PAH 16 Total #	4.814	-									<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	0.505	-									<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	0.197	-									<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	85	-									<0	%	TM4/PM30
Methyl Tertiary Butyl Ether #	<0.1	-									<0.1	ug/l	TM15/PM10
Benzene #	<0.5	-									<0.5	ug/l	TM15/PM10
Toluene #	<5	-									<5	ug/l	TM15/PM10
Ethylbenzene #	<1	-									<1	ug/l	TM15/PM10
m/p-Xylene #	<2	-									<2	ug/l	TM15/PM10
o-Xylene #	<1	-									<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	84	-									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	102	-									<0	%	TM15/PM10

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/10147

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	1-8	9											
Sample ID	BH01	BH03											
Depth													
COC No / misc													
Containers	V H HNUF N Z P G	P											
Sample Date	19/06/2023	19/06/2023											
Sample Type	Ground Water	Ground Water											
Batch Number	1	1											
Date of Receipt	22/06/2023	22/06/2023											

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	<10	-									<10	ug/l	TM36/PM12
>C6-C8 #	<10	-									<10	ug/l	TM36/PM12
>C8-C10 #	<10	-									<10	ug/l	TM36/PM12
>C10-C12 #	<5	-									<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	-									<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	-									<10	ug/l	TM5/PM16/PM30
>C21-C35 #	940	-									<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	940	-									<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 #	<10	-									<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	-									<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	-									<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	-									<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	-									<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	-									<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	-									<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	-									<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) #	940	-									<10	ug/l	TM5/TM36/PM12/PM16/PM30
Sulphate as SO4 #	694.7	559.7									<0.5	mg/l	TM38/PM0
Hexavalent Chromium	<0.006	<0.006									<0.006	mg/l	TM38/PM0
Total Alkalinity as CaCO3 #	480	198									<1	mg/l	TM75/PM0
Dissolved Organic Carbon #	7	15									<2	mg/l	TM60/PM0
pH #	7.74	6.30									<0.01	pH units	TM73/PM0
Total Organic Carbon #	20_{AA}	-									<2	mg/l	TM60/PM0

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/10147

SVOC Report : **Liquid**

EMT Sample No.	1-8												
Sample ID	BH01												
Depth													
COC No / misc													
Containers	V H HNUF N Z P G												
Sample Date	19/06/2023												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	22/06/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<1										<1	ug/l	TM16/PM30
2-Methylphenol #	<0.5										<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5										<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol #	<0.5										<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1										<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol #	<0.5										<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1										<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol #	<0.5										<0.5	ug/l	TM16/PM30
4-Methylphenol	<1										<1	ug/l	TM16/PM30
4-Nitrophenol	<10										<10	ug/l	TM16/PM30
Pentachlorophenol	<1										<1	ug/l	TM16/PM30
Phenol	<1										<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene #	<1										<1	ug/l	TM16/PM30
2-Methylnaphthalene #	<1										<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5										<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1										<1	ug/l	TM16/PM30
Di-n-butyl phthalate #	<1.5										<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1										<1	ug/l	TM16/PM30
Diethyl phthalate #	1										<1	ug/l	TM16/PM30
Dimethyl phthalate	<1										<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene #	<1										<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene #	<1										<1	ug/l	TM16/PM30
1,3-Dichlorobenzene #	<1										<1	ug/l	TM16/PM30
1,4-Dichlorobenzene #	<1										<1	ug/l	TM16/PM30
2-Nitroaniline	<1										<1	ug/l	TM16/PM30
2,4-Dinitrotoluene #	<0.5										<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1										<1	ug/l	TM16/PM30
3-Nitroaniline	<1										<1	ug/l	TM16/PM30
4-Bromophenylphenylether #	<1										<1	ug/l	TM16/PM30
4-Chloroaniline	<1										<1	ug/l	TM16/PM30
4-Chlorophenylphenylether #	<1										<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5										<0.5	ug/l	TM16/PM30
Azobenzene #	<0.5										<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane #	<0.5										<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether #	<1										<1	ug/l	TM16/PM30
Carbazole #	<0.5										<0.5	ug/l	TM16/PM30
Dibenzofuran #	<0.5										<0.5	ug/l	TM16/PM30
Hexachlorobenzene #	<1										<1	ug/l	TM16/PM30
Hexachlorobutadiene #	<1										<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1										<1	ug/l	TM16/PM30
Hexachloroethane #	<1										<1	ug/l	TM16/PM30
Isophorone #	<0.5										<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine #	<0.5										<0.5	ug/l	TM16/PM30
Nitrobenzene #	<1										<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	101										<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	129										<0	%	TM16/PM30

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/10147

VOC Report : **Liquid**

EMT Sample No.	1-8												
Sample ID	BH01												
Depth													
COC No / misc													
Containers	V H HNUF N Z P G												
Sample Date	19/06/2023												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	22/06/2023												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2										<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	<0.1										<0.1	ug/l	TM15/PM10
Chloromethane #	<3										<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1										<0.1	ug/l	TM15/PM10
Bromomethane	<1										<1	ug/l	TM15/PM10
Chloroethane #	<3										<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3										<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3										<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3										<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3										<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1										<1	ug/l	TM15/PM10
Bromochloromethane #	<2										<2	ug/l	TM15/PM10
Chloroform #	<2										<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2										<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3										<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2										<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2										<2	ug/l	TM15/PM10
Benzene #	<0.5										<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3										<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2										<2	ug/l	TM15/PM10
Dibromomethane #	<3										<3	ug/l	TM15/PM10
Bromodichloromethane #	<2										<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
Toluene #	<5										<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2										<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3										<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2										<2	ug/l	TM15/PM10
Dibromochloromethane #	<2										<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2										<2	ug/l	TM15/PM10
Chlorobenzene #	<2										<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2										<2	ug/l	TM15/PM10
Ethylbenzene #	<1										<1	ug/l	TM15/PM10
m/p-Xylene #	<2										<2	ug/l	TM15/PM10
o-Xylene #	<1										<1	ug/l	TM15/PM10
Styrene	<2										<2	ug/l	TM15/PM10
Bromoform #	<2										<2	ug/l	TM15/PM10
Isopropylbenzene #	<3										<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4										<4	ug/l	TM15/PM10
Bromobenzene #	<2										<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3										<3	ug/l	TM15/PM10
Propylbenzene #	<3										<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3										<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3										<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3										<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3										<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3										<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3										<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3										<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
n-Butylbenzene #	<3										<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2										<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3										<3	ug/l	TM15/PM10
Naphthalene	<2										<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	84										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	102										<0	%	TM15/PM10

Client Name: Groundtech Consulting Limited

Reference: GRO-22462

Location: Brunswick Mill

Contact: Jacob Roby

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
23/10147	1	BH01		1-8	Possible lubricating oil

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/10147						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/10147

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

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

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

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

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x4 Dilution
AB	x10 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/10147

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	Yes			
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				

EMT Job No: 23/10147

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.	Yes			

APPENDIX 6 - Geotechnical Testing Results

Element Materials Technology
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Zone 3
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Deeside
CH5 2UA

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Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE

Attention :	Jacob Roby
Date :	7th June, 2023
Your reference :	GRO-22462
Our reference :	Test Report 23/8536 Batch 1
Location :	Brunswick Mill
Date samples received :	27th May, 2023
Status :	Final Report
Issue :	2

Three samples were received for analysis on 27th May, 2023 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby
EMT Job No: 23/8536

Report : Solid

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

EMT Sample No.	1	2	3									
Sample ID	BH1	BH2	BH3									
Depth	14.00	15.00	18.00									
COC No / misc												
Containers	T	T	T									
Sample Date	11/05/2023	11/05/2023	11/05/2023									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	27/05/2023	27/05/2023	27/05/2023									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Sulphate as SO4 (2:1 Ext) #	0.0406	0.0987	0.0385								<0.0015	g/l	TM38/PM20
pH #	8.76	8.75	8.79								<0.01	pH units	TM73/PM11

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22462
Location: Brunswick Mill
Contact: Jacob Roby

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/8536						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/8536

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

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

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

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

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/8536

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No

APPENDIX 7 - Interim Gas Monitoring Results

PERMANENT GROUND GAS MONITORING FORM

GROUNDTECH CONSULTING

SITE NAME:	*BRUNSWICK MILL*				***ENGINEER:***	*William Sandiford Mitchell*						
CLIENT:	*CIVIC ENGINEERS*				***DATE:***	*13/06/2023*						
JOB NO:	*GRO-22462*											
Pressure Trend:	*Steady*	***Weather:***	*Clear*			***Equipment:***	*GFM 436*					

Ambient:	O_2 (%v/v)	CH_4 (%v/v)	CO_2 (%v/v)	LEL	H_2S (ppm)	CO (ppm)
Start	20.8	0.0	0.0	0.0	0.0	0.0
Finish	20.8	0.0	0.0	0.0	0.0	0.0

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q_{hg} CO_2 (l/hr)	Q_{hg} CH_4 (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
BH01	6.3	6.3	0.55	0.0	0.0	0.0	5.2	0.5	0.8	19.7	0.0	0.0	0.0	0.0	0.3276	0.0000	1007	-	N	N/A	N/A	17.26
BH02	0.0	0.0	0.00	0.0	0.0	0.0	0.6	0.4	20.0	20.8	0.0	0.0	0.0	0.0	0.0006	0.0000	1007	-	N	N/A	N/A	17.27
BH03S	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	20.3	20.3	0.0	0.0	0.0	0.0	0.0000	0.0000	1006	-	N	N/A	N/A	NGW
BH03D	0.0	0.0	0.00	0.0	0.0	0.0	3.4	3.4	13.1	13.1	0.0	0.0	0.0	0.0	0.0034	0.0000	1006	-	N	N/A	N/A	18.71
WS02A	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	13.6	13.6	0.0	0.0	0.0	0.0	0.0000	0.0000	1007	-	N	N/A	N/A	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	9.1	0.3	10.9	21.3	0.0	0.0	0.0	0.0	0.0091	0.0000	1008	-	N	N/A	N/A	NGW
WS07A	0.0	0.0	0.00	0.0	0.0	1.5	1.5	1.4	20.1	19.5	0.0	0.0	0.0	0.0	0.0015	0.0000	1007	-	N	N/A	N/A	NGW
WS08	0.0	0.0	0.00	0.0	0.0	2.9	2.9	2.9	12.5	12.5	0.0	0.0	0.0	0.0	0.0029	0.0000	1007	-	N	N/A	N/A	NGW

Notes:

PERMANENT GROUND GAS MONITORING FORM

GROUNDTECH CONSULTING

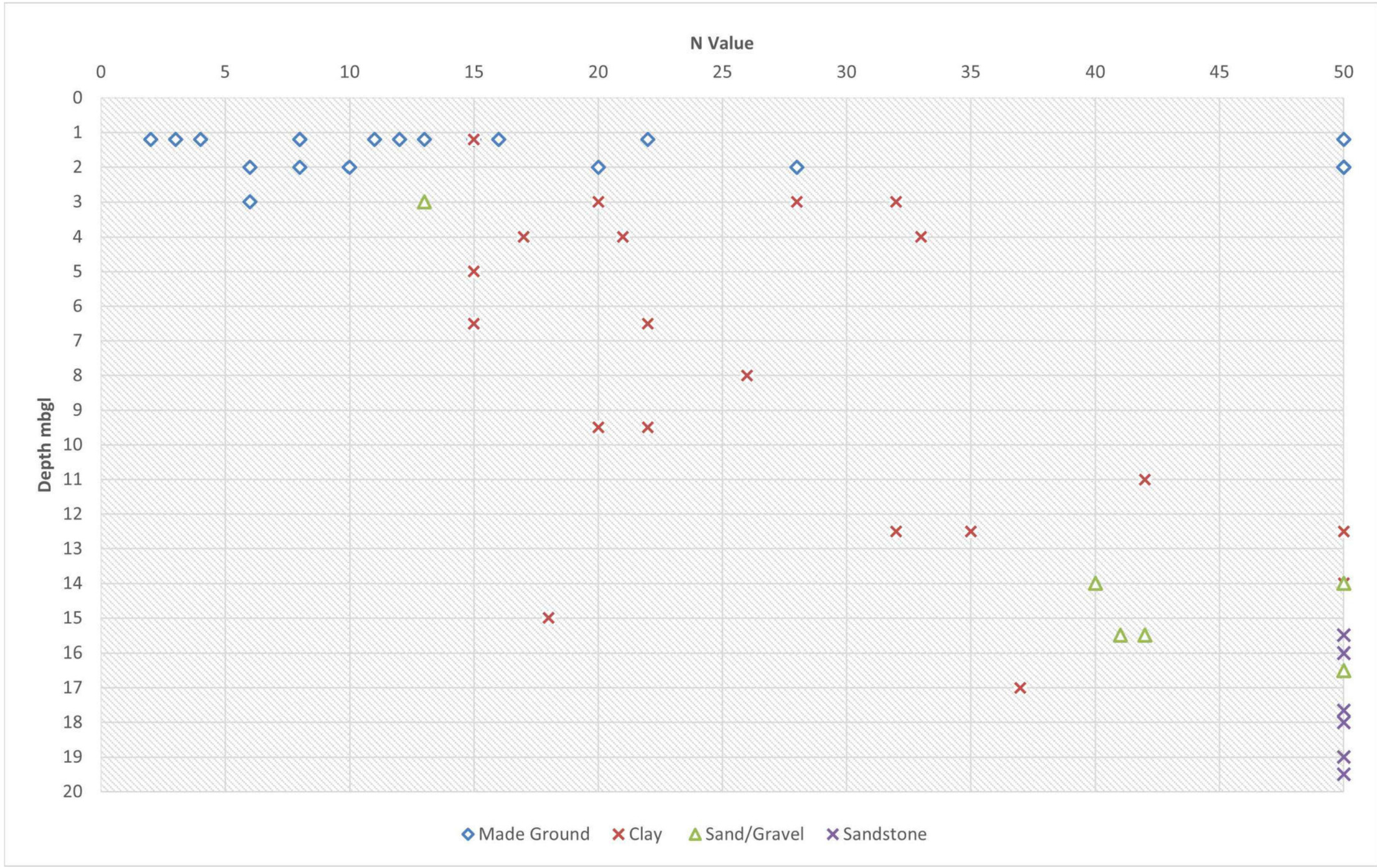
SITE NAME:	*BRUNSWICK MILL*				***ENGINEER:***	*William Sandiford Mitchell*						
CLIENT:	*CIVIC ENGINEERS*				***DATE:***	*19/06/2023*						
JOB NO:	*GRO-22462*											
Pressure Trend:	*Steady*	***Weather:***	*Overcast*			***Equipment:***	*GFM 436*					

Ambient:	O_2 (%v/v)	CH_4 (%v/v)	CO_2 (%v/v)	LEL	H_2S (ppm)	CO (ppm)
Start	20.8	0.0	0.0	0.0	0.0	0.0
Finish	20.8	0.0	0.0	0.0	0.0	0.0

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q_{hg} CO_2 (l/hr)	Q_{hg} CH_4 (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
BH01	0.0	0.0	0.00	0.0	0.0	0.0	6.0	4.2	1.5	6.7	0.0	0.0	0.0	0.0	0.0060	0.0000	1000	-	N	N/A	N/A	17.26
BH02	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.2	20.8	20.2	0.0	0.0	0.0	0.0	0.0003	0.0000	1000	-	N	N/A	N/A	17.79
BH03S	0.0	0.0	0.00	0.0	0.0	0.0	0.3	0.3	20.2	20.3	0.0	0.0	0.0	0.0	0.0003	0.0000	1000	-	N	N/A	N/A	NGW
BH03D	0.0	0.0	0.00	0.0	0.0	0.0	0.4	0.0	20.6	19.9	0.0	0.0	0.0	0.0	0.0004	0.0000	1000	-	N	N/A	N/A	18.73
WS02A	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	13.4	13.6	0.0	0.0	0.0	0.0	0.0000	0.0000	1000	-	N	N/A	N/A	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	9.2	9.2	11.4	11.4	0.0	0.0	0.0	0.0	0.0092	0.0000	1000	-	N	N/A	N/A	NGW
WS07A	0.0	0.0	0.00	0.0	0.0	0.0	1.9	1.8	19.4	19.6	0.0	0.0	0.0	0.0	0.0019	0.0000	1001	-	N	N/A	N/A	NGW
WS08	0.0	0.0	0.00	0.0	0.0	0.0	2.9	2.9	12.4	12.5	0.0	0.0	0.0	0.0	0.0029	0.0000	1000	-	N	N/A	N/A	2.31

Notes:

APPENDIX 8 - Generalised Ground Model



GROUNDTECH CONSULTING

CLIENT	ARROWSMITH INVESTMENT LIMITED
PROJECT TITLE	BRUNSWICK MILL
PLAN TITLE	GENERALISED GROUND MODEL
DATE	JUNE 2023
SCALE	NTS
PLAN NUMBER	GRO-22462-P05

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 9 - Generic Screening Values (Residential without Plant Uptake)

Generic Assessment Criteria (GAC)

GROUNDTECH CONSULTING

Proposed End Use	Unit	Residential with Plant Uptake			Residential without plant uptake			Source
SOM	%	1	2.5	6	1	2.5	6	
Arsenic	mg/kg	37	37	37	40	40	40	LQM S4ULs
Beryllium	mg/kg	1.7	1.7	1.7	1.7	1.7	1.7	LQM S4ULs
Boron (water soluble)	mg/kg	290	290	290	11000	11000	11000	LQM S4ULs
Cadmium	mg/kg	10	10	10	85	85	85	SGVs
Chromium (Total)	mg/kg	910	910	910	910	910	910	LQM S4ULs
Chromium (VI)	mg/kg	21	21	21	-	-	-	DEFRA C4SLs
Copper	mg/kg	2400	2400	2400	7100	7100	7100	LQM S4ULs
Lead	mg/kg	200	200	200	310	310	310	DEFRA C4SLs
Mercury	mg/kg	1.2	1.2	1.2	1.2	1.2	1.2	LQM S4ULs
Nickel	mg/kg	180	180	180	180	180	180	LQM S4ULs
Selenium	mg/kg	350	350	350	430	430	430	SGVs
Vanadium	mg/kg	410	410	410	1200	1200	1200	LQM S4ULs
Zinc	mg/kg	3700	3700	3700	40000	40000	40000	LQM S4ULs
Aliphatic EC 5 - 6	mg/kg	42	78	160	42	78	160	LQM S4ULs
Aliphatic EC 6 - 8	mg/kg	100	230	530	100	230	530	LQM S4ULs
Aliphatic EC 8 - 10	mg/kg	27	65	150	27	65	150	LQM S4ULs
Aliphatic EC 10 - 12	mg/kg	130 (48) vap	330 (118) vap	760 (283) vap	130 (48) vap	330 (118) vap	770 (283) vap	LQM S4ULs
Aliphatic EC 12 - 16	mg/kg	1100 (24) sol	2400 (59) sol	4300 (142) sol	1100 (24) sol	2400 (59) sol	4400 (142) sol	LQM S4ULs
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	LQM S4ULs
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	65000	92000 (21) f,sol	110000 f	LQM S4ULs
Aromatic EC 5 - 7	mg/kg	70	140	300	370	690	1400	LQM S4ULs
Aromatic EC 7 - 8	mg/kg	130	290	660	860	1800	3900	LQM S4ULs
Aromatic EC 8 - 10	mg/kg	34	83	190	47	110	270	LQM S4ULs
Aromatic EC 10 - 12	mg/kg	74	180	380	250	590	1200	LQM S4ULs
Aromatic EC 12 -16	mg/kg	140	330	660	1800	2300	2500	LQM S4ULs
Aromatic EC 16 - 21	mg/kg	260 f	540 f	930 f	1900	1900	1900	LQM S4ULs
Aromatic EC 21 - 35	mg/kg	1100 f	1500 f	1700 f	1900	1900	1900	LQM S4ULs
Aromatic EC 35 - 44	mg/kg	1100 f	1500 f	1700 f	1900	1900	1900	LQM S4ULs
Benzene	mg/kg	0.33	0.33	0.33	0.38	0.7	1.4	SGVs
Toluene	mg/kg	610	610	610	880	1900	3900	SGVs
Ethyl Benzene	mg/kg	350	350	350	83	190	440	SGVs
Xylene - o	mg/kg	250	250	250	88	210	480	SGVs
Xylene - m	mg/kg	240	240	240	82	190	450	SGVs
Xylene - p	mg/kg	230	230	230	79	180	430	SGVs
MTBE (methyl tert-butyl ether)	mg/kg	49	84	160	-	-	-	CL:AIRE 2010
Acenaphthene	mg/kg	210	510	1100	3000	4700	6000	LQM SAULs
Acenaphthylene	mg/kg	170	420	920	2900	4600	6000	LQM S4ULs
Anthracene	mg/kg	2400	5400	11000	31000	35000	37000	LQM S4ULs
Benzo(a)anthracene	mg/kg	7.2	11	13	11	14	15	LQM S4ULs
Benzo(a)pyrene	mg/kg	2.2	2.7	5*	3.2	3.2	3.2	DEFRA C4SL*/LQM S4ULs
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	3.9	4	4	LQM S4ULs
Benzo(ghi)perylene	mg/kg	320	340	350	360	360	360	LQM S4ULs
Benzo(k)fluoranthene	mg/kg	77	93	100	110	110	110	LQM S4ULs
Chrysene	mg/kg	15	22	27	30	31	32	LQM S4ULs
Dibenzo(ah)anthracene	mg/kg	0.24	0.28	0.3	0.31	0.32	0.32	LQM S4ULs
Fluoranthene	mg/kg	280	560	890	1500	1600	1600	LQM S4ULs
Fluorene	mg/kg	170	400	860	2800	3800	4500	LQM S4ULs
Indeno(123-cd)pyrene	mg/kg	27	36	41	45	46	46	LQM S4ULs
Naphthalene	mg/kg	2.3 f	5.6 f	13 f	2.3	5.6	13	LQM S4ULs
Phenanthrene	mg/kg	95	220	440	1300	1500	1500	LQM S4ULs
Pyrene	mg/kg	620	1200	2000	3700	3800	3800	LQM S4ULs

Generic Assessment Criteria (GAC)

GROUNDTECH CONSULTING

Proposed End Use	Unit	Residential with Plant Uptake			Residential without plant uptake			Source
SOM	%	1	2.5	6	1	2.5	6	
Phenols	*mg/kg*	*420*	*420*	*420*	-			*SGVs*
Chlorophenols	*mg/kg*	*0.87* [g]	*2*	*4.5*	-			*LQM S4ULs*
Pentachlorophenol	*mg/kg*	*0.22*	*0.52*	*1.2*	-			*LQM S4ULs*
Carbon disulphide	*mg/kg*	*0.14*	*0.29*	*0.62*	-			*LQM S4ULs*
Hexachlorobutadiene	*mg/kg*	*0.29*	*0.7*	*1.6*	-			*LQM S4ULs*
1,1,1,2 Tetrachloroethane	*mg/kg*	*1.6*	*3.4*	*7.5*	-			*LQM S4ULs*
1,1,1 Trichloroethane	*mg/kg*	*8.8*	*18*	*39*	-			*LQM S4ULs*
Trichloroethene	*mg/kg*	*0.016*	*0.034*	*0.075*	-			*LQM S4ULs*
Tetrachoromethane (Carbon Tetrachloride)	*mg/kg*	*0.026*	*0.056*	*0.13*	-			*LQM S4ULs*
1,2-Dichloroethane	*mg/kg*	*0.0071*	*0.011*	*0.019*	-			*LQM S4ULs*
Chloroethene (Vinyl chloride)	*mg/kg*	*0.00064*	*0.00087*	*0.0014*	-			*LQM S4ULs*
Trichloromethane (Chloroform)	*mg/kg*	*0.91*	*1.7*	*3.4*	-			*LQM S4ULs*
Tetrachloroethene	*mg/kg*	*0.18*	*0.39*	*0.9*	-			*LQM S4ULs*
Hexachlorobenzene	*mg/kg*	*1.8 (0.2)* [vap]	*3.3 (0.5)* [vap]	*4.9*	-			*LQM S4ULs*
Pentachlorobenzene	*mg/kg*	*5.8*	*12*	*22*	-			*LQM S4ULs*
1,2,4,5-Tetrachlorobenzene	*mg/kg*	*0.33*	*0.77*	*1.6*	-			*LQM S4ULs*
1,2,3,5-Tetrachlorobenzene	*mg/kg*	*0.66*	*1.69*	*3.7*	-			*LQM S4ULs*
1,2,3,4-Tetrachlorobenzene	*mg/kg*	*15*	*36*	*78*	-			*LQM S4ULs*
1,3,5-Trichlorobenzene	*mg/kg*	*0.33*	*0.81*	*1.9*	-			*LQM S4ULs*
1,2,4-Trichlorobenzene	*mg/kg*	*2.6*	*6.4*	*15*	-			*LQM S4ULs*
1,2,3-Trichlorobenzene	*mg/kg*	*1.5*	*3.6*	*8.6*	-			*LQM S4ULs*
1,4-dichlorobenzene	*mg/kg*	*61* [f]	*150* [f]	*350* [f]	-			*LQM S4ULs*
1,3-dichlorobenzene	*mg/kg*	*0.4*	*1*	*2.3*	-			*LQM S4ULs*
1,2-Dichlorobenzene	*mg/kg*	*23*	*55*	*130*	-			*LQM S4ULs*
Chlorobenzene	*mg/kg*	*0.46*	*1*	*2.4*	-			*LQM S4ULs*
Gamma-Hexachlorocyclohexanes	*mg/kg*	*0.06*	*0.14*	*0.33*	-			*LQM S4ULs*
Beta-Hexachlorocyclohexane	*mg/kg*	*0.085*	*0.2*	*0.46*	-			*LQM S4ULs*
Alpaha - Hexachlorocyclohexane	*mg/kg*	*0.23*	*0.55*	*1.2*	-			*LQM S4ULs*
Beta -Endosulfan	*mg/kg*	*7*	*17*	*39*	-			*LQM S4ULs*
Alpha-Endosulfan	*mg/kg*	*7.4*	*18*	*41*	-			*LQM S4ULs*
Dichlorvos	*mg/kg*	*0.032*	*0.066*	*0.14*	-			*LQM S4ULs*
Atrazine	*mg/kg*	*3.3*	*7.6*	*17.4*	-			*LQM S4ULs*
Dieldrin	*mg/kg*	*0.97*	*2*	*3.5*	-			*LQM S4ULs*
Aldrin	*mg/kg*	*5.7*	*6.6*	*7.1*	-			*LQM S4ULs*
HMX	*mg/kg*	*5.7*	*13*	*26*	-			*LQM S4ULs*
2,4,6-Trinitrotoulene	*mg/kg*	*1.6*	*3.7*	*8.1*	-			*LQM S4ULs*
RDX	*mg/kg*	*120*	*250*	*540*	-			*LQM S4ULs*

[sol] S4UL exceeds the solubility saturation limit (which is presented in brackets)

[vap] S4ULS presented exceeds the vapour saturation limit, which is presented in brackets

[f] For naphthalene, the S4UL is based on a comparison of inhalation exposure with the TDI_{inhal} for localised affects

[f] S4UL based on comparison of inhalation exposure with inhalation TDI for localised effects

[dir] S4ULs based on a threshold protecive direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustation only

APPENDIX 10 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ⇨ Hazard Assessment ⇨ Risk Estimation ⇨ Risk Evaluation

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;

- Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;

- Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;

- Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- Severe: 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 resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;

- Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
  Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

- Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
  Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- Very high: 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 is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;

- High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;

- Moderate: 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 would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;

- Low: 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;

- Very Low: 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.

APPENDIX 11 - JIWG Receptor Decision Tool

JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Decision Support Tool for Receptor Risk Ranking

Stage 1

Hazard Identification		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Non-friable ACM or ACM with fibres firmly linked in a matrix	0
Distribution of Visible Asbestos Across Affected Area	Occasional/random occurrences of visible contamination by ACMs	1
Asbestos fibre type	Mainly chrysotile and trace amphibole (no crocidolite)	1
Sub-total		**8**
Hazard ranking		**Low**

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.
It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

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Version 2, February 2017

Stage 2

Emission Factors		Score
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Large quantities - ≥0.1 %wt/wt	4
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Very low	1
Activity type and effect on deterioration of ACMs	Minimal disturbance, no deterioration expected	1
Best description of primary host material matrix	Coarse to Fine Sand	2
Sub-total		**8**
Exposure ranking		**Low**

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Stage 3

Pathway and Receptor Sensitivity		Score	
Receptor category	Public open space or building	No score required	
Age of Receptor	Infant (under 5)	4	
Duration of exposure/site occupancy	< 1 hour in any single day (e.g. frequent but short exposure event)	1	
Receptor ranking		5	Medium
Combined hazard, exposure and receptor ranking			Low
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4	
Pathway: Depth to impacted material	Material present near the surface, potential to be disturbed during non-construction/routine use of land	D	
Pathway ranking		4D	Medium
Overall ranking			Low

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Project Reference	GRO-22462

Site Name	Brunswick Mill
Client	Arrowsmith Investments

Run by	CH
Date	30-Jun-23
Reviewed by	RW

Characterisation of scenario being evaluated	

Interpretation of scenario ranking by DST	

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JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Project Reference	GRO-22462
Site Name	Brunswick Mill
Client	Arrowsmith Investments Limited
Run by	RW
Date	30-Jun-23
Scenario details	

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Loose fibrous asbestos debris	3
Extent of degradation of ACMs at outset of work	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
Distribution of Visible Asbestos Across Affected Area	Occasional/random occurrences of visible contamination by ACMs	1
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Large quantities - >0.1 %wt/wt	4
Sub-total		**16**

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking **High**

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.
It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

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Stage 2

Exposure Factors

		Score
Anticipated airborne fibre concentration - Control Limit or SALI?	<0.001 fibres/ml	0
Anticipated duration of exposure to asbestos	> 2 hours in a 7 day period and Up to 10 hours in a day (e.g. full time occupational exposure)	4
Activity type and effect on deterioration of ACMs during work	Sampling, manual or mechanical (significant deterioration expected)	2
Best description of primary host material matrix (soil/made ground)	Coarse to Fine Sand	2
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Medium	3
Sub-total		**11**
Exposure ranking		Medium
Combined hazard and exposure ranking	**27**	Medium

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Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	EN140 with P3 filter half mask
Dust Suppression**	Localised mechanical dust suppression
Hygiene/Decontamination***	Localised and enhanced personal decontamination facilities

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.
**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)
***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis

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APPENDIX 12 - Waste Classification Report

Waste Classification Report

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

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

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

QUU7B-37Z36-D0A79

Job name

EMT-23-7677-Batch-1-202306081050

Description/Comments

Project

GRO-22462

Site

Brunswick Mill

Classified by

Name:
Richard Wyatt
Date:
21 Jun 2023 15:39 GMT
Telephone:
07742660133

Company:
Groundtech Consulting Limited
First Floor, Lloyd House
Orford Court, Greenfold Way
Leigh
WN7 3XJ

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

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	50% complete

Purpose of classification

4 - Classification of Waste Products

Address of the waste

Brunswick Mill, Bradford Road, Manchester **Post Code** M40 7EZ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of derelict land into apartment blocks

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

Waste created during trial pit and borehole excavation.

Description of the waste

Made Ground comprising brown grey black ashy clay to gravel.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH01-11/05/2023-0.50m		Hazardous	HP 8	3
2	BH02-11/05/2023-2.00m		Non Hazardous		5
3	BH03-11/05/2023-1.00m		Non Hazardous		7

Related documents

#	Name	Description
1	EMT-23-7677-Batch-1-202306081050.HWOL	Element .hwol file used to populate the Job

Report

Created by: Richard Wyatt

Created date: 21 Jun 2023 15:39 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	10
Appendix C: Version	10

Classification of sample: BH01-11/05/2023-0.50m

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

Sample details

Sample name:
BH01-11/05/2023-0.50m
Moisture content:
13.1%
(dry weight correction)

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

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 11.63 pH)

Determinands

Moisture content: 13.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				7.7	mg/kg	1.895	12.898	mg/kg	0.00129 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		28	mg/kg	3.929	97.271	mg/kg	0.00973 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	82	mg/kg	1.57	113.821	mg/kg	0.00725 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1	mg/kg	1.419	<0.142	mg/kg	<0.0000142 %		<**LOD**
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		18.6	mg/kg	5.324	87.561	mg/kg	0.00876 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		62	mg/kg	4.398	241.089	mg/kg	0.0241 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		140	µg/kg		0.124	mg/kg	0.0000124 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.08	mg/kg		0.0707	mg/kg	0.00000707 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.36	mg/kg		0.318	mg/kg	0.0000318 %	✓	
13	fluorene		201-695-5	86-73-7		0.24	mg/kg		0.212	mg/kg	0.0000212 %	✓	

#		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		phenanthrene	201-581-5	85-01-8		2.42	mg/kg		2.14	mg/kg	0.000214 %	✓	
15		anthracene	204-371-1	120-12-7		0.62	mg/kg		0.548	mg/kg	0.0000548 %	✓	
16		fluoranthene	205-912-4	206-44-0		3.61	mg/kg		3.192	mg/kg	0.000319 %	✓	
17		pyrene	204-927-3	129-00-0		3.31	mg/kg		2.927	mg/kg	0.000293 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		1.55	mg/kg		1.37	mg/kg	0.000137 %	✓	
		601-033-00-9											
19		chrysene	205-923-4	218-01-9		1.57	mg/kg		1.388	mg/kg	0.000139 %	✓	
		601-048-00-0											
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		1.67	mg/kg		1.477	mg/kg	0.000148 %	✓	
		601-032-00-3											
21		indeno[123-cd]pyrene	205-893-2	193-39-5		0.94	mg/kg		0.831	mg/kg	0.0000831 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.11	mg/kg		0.0973	mg/kg	0.00000973 %	✓	
		601-041-00-2											
23		benzo[ghi]perylene	205-883-8	191-24-2		0.85	mg/kg		0.752	mg/kg	0.0000752 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		1.89	mg/kg		1.671	mg/kg	0.000167 %	✓	
		601-034-00-4											
25		benzo[k]fluoranthene	205-916-6	207-08-9		0.73	mg/kg		0.645	mg/kg	0.0000645 %	✓	
		601-036-00-5											
26		pH		PH		11.63	pH		11.63	pH	11.63 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		44.8	mg/kg	1.462	57.894	mg/kg	0.00579 %	✓	
										Total:	0.0591 %		

Key

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

Classification of sample: BH02-11/05/2023-2.00m

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

Sample details

Sample name:
BH02-11/05/2023-2.00m
Moisture content:
17.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8.6 mg/kg	1.895	13.819 mg/kg	0.00138 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		32 mg/kg	3.929	106.641 mg/kg	0.0107 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	77 mg/kg	1.57	102.529 mg/kg	0.00653 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.361 mg/kg	0.0000361 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		15.1 mg/kg	5.324	68.191 mg/kg	0.00682 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		78 mg/kg	4.398	290.957 mg/kg	0.0291 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		120 µg/kg		0.102 mg/kg	0.0000102 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.11 mg/kg		0.0933 mg/kg	0.00000933 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.07 mg/kg		0.0594 mg/kg	0.00000594 %	✓	
13	fluorene		201-695-5	86-73-7		0.08 mg/kg		0.0679 mg/kg	0.00000679 %	✓	
14	phenanthrene		201-581-5	85-01-8		0.85 mg/kg		0.721 mg/kg	0.0000721 %	✓	
15	anthracene		204-371-1	120-12-7		0.4 mg/kg		0.339 mg/kg	0.0000339 %	✓	

#		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									
16		fluoranthene				1.41	mg/kg		1.196	mg/kg	0.00012 %	✓	
			205-912-4	206-44-0									
17		pyrene				1.24	mg/kg		1.052	mg/kg	0.000105 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.66	mg/kg		0.56	mg/kg	0.000056 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.78	mg/kg		0.662	mg/kg	0.0000662 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.8	mg/kg		0.679	mg/kg	0.0000679 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.52	mg/kg		0.441	mg/kg	0.0000441 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.08	mg/kg		0.0679	mg/kg	0.00000679 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.53	mg/kg		0.45	mg/kg	0.000045 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				0.96	mg/kg		0.814	mg/kg	0.0000814 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.38	mg/kg		0.322	mg/kg	0.0000322 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.8	pH		8.8	pH	8.8 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42.1	mg/kg	1.462	52.19	mg/kg	0.00522 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0609 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered.

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

Classification of sample: BH03-11/05/2023-1.00m

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

Sample details

Sample name:
BH03-11/05/2023-1.00m
Moisture content:
14.2%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8.2 mg/kg	1.895	13.603 mg/kg	0.00136 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		19 mg/kg	3.929	65.37 mg/kg	0.00654 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	123 mg/kg	1.57	169.087 mg/kg	0.0108 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.2 mg/kg	1.419	0.248 mg/kg	0.0000248 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		9.4 mg/kg	5.324	43.825 mg/kg	0.00438 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		54 mg/kg	4.398	207.958 mg/kg	0.0208 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		1070 µg/kg		0.937 mg/kg	0.0000937 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.17 mg/kg		0.149 mg/kg	0.0000149 %	✓	
12	acenaphthene		201-469-6	83-32-9		1.31 mg/kg		1.147 mg/kg	0.000115 %	✓	
13	fluorene		201-695-5	86-73-7		1.22 mg/kg		1.068 mg/kg	0.000107 %	✓	
14	phenanthrene		201-581-5	85-01-8		9.76 mg/kg		8.546 mg/kg	0.000855 %	✓	
15	anthracene		204-371-1	120-12-7		1.63 mg/kg		1.427 mg/kg	0.000143 %	✓	

#		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									
16		fluoranthene				9.46	mg/kg		8.284	mg/kg	0.000828 %	✓	
			205-912-4	206-44-0									
17		pyrene				8.95	mg/kg		7.837	mg/kg	0.000784 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				4.01	mg/kg		3.511	mg/kg	0.000351 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				4.97	mg/kg		4.352	mg/kg	0.000435 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				3.83	mg/kg		3.354	mg/kg	0.000335 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				2.33	mg/kg		2.04	mg/kg	0.000204 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.47	mg/kg		0.412	mg/kg	0.0000412 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				2.38	mg/kg		2.084	mg/kg	0.000208 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				4.85	mg/kg		4.247	mg/kg	0.000425 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				1.88	mg/kg		1.646	mg/kg	0.000165 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				9.13	pH		9.13	pH	9.13 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				33.9	mg/kg	1.462	43.386	mg/kg	0.00434 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0537 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered.

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00002%)

Appendix A: Classifier defined and non GB MCL determinands

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

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

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

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

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pH** (CAS Number: PH)

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

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic acid and its salts with the exception of those specified elsewhere in this Annex}

Worst case scenario

cadmium {cadmium sulfate}

Worst case scenario

copper {copper sulphate pentahydrate}

Worst case scenario

lead {lead di(acetate)}

Worst case scenario

mercury {mercury difulminate}

Worst case scenario

nickel {nickel diiodide}

Worst case scenario

selenium {nickel selenate}

Worst case scenario

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

Worst case scenario

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

Worst case scenario

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

Worst case scenario

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2023.171.5623.10363 (20 Jun 2023)
HazWasteOnline Database: 2023.171.5623.10363 (20 Jun 2023)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021

Waste Classification Report

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

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

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

CIW1K-3FMI4-QE9VL

Job name

EMT-23-7686-Batch-1-202306051043

Description/Comments

Project

GRO-22462

Site

Brunswick Mill

Classified by

Name:
Richard Wyatt
Date:
21 Jun 2023 15:37 GMT
Telephone:
07742660133

Company:
Groundtech Consulting Limited
First Floor, Lloyd House
Orford Court, Greenfold Way
Leigh
WN7 3XJ

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

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	50% complete

Purpose of classification

4 - Classification of Waste Products

Address of the waste

Brunswick Mill, Bradford Road, Manchester **Post Code** M40 7EZ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of derelict land for apartment blocks.

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

Waste created during trial pit and borehole excavation.

Description of the waste

Made Ground comprising brown black ashy clay to gravel

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	HP01-09/05/2023-0.50m		Non Hazardous		3
2	HP02-09/05/2023-0.50m		Non Hazardous		5
3	HP03-09/05/2023-0.50m		Hazardous	HP 14	7
4	HP05-10/05/2023-0.50m		Non Hazardous		9
5	HP06-10/05/2023-0.50m		Non Hazardous		11
6	HP07-10/05/2023-0.50m		Non Hazardous		13
7	HP09-11/05/2023-0.50m		Non Hazardous		15
8	HP10-11/05/2023-0.50m		Non Hazardous		17
9	HP11-11/05/2023-0.50m		Non Hazardous		19
10	HP12-12/05/2023-0.50m		Non Hazardous		25
11	HP13-12/05/2023-0.50m		Non Hazardous		31
12	TP01-11/05/2023-1.00m		Non Hazardous		33
13	TP02-11/05/2023-0.50m		Non Hazardous		39
14	TP03-11/05/2023-1.00m		Non Hazardous		45
15	TP04-11/05/2023-2.00m		Non Hazardous		47
16	TP05-11/05/2023-1.00m		Non Hazardous		49
17	TP06-11/05/2023-0.50m		Non Hazardous		51
18	TP06-11/05/2023-2.70m		Non Hazardous		53
19	TP07-11/05/2023-1.00m		Non Hazardous		54
20	WS01A-13/05/2023-1.00m		Non Hazardous		56
21	WS02-13/05/2023-0.50m		Non Hazardous		59
22	WS04-13/05/2023-0.50m		Non Hazardous		61
23	WS06-13/05/2023-0.50m		Non Hazardous		64
24	WS07A-13/05/2023-1.00m		Hazardous	HP 14	67
25	WS08-13/05/2023-0.50m		Non Hazardous		69
26	WS08-13/05/2023-2.50m		Non Hazardous		71
27	WS09-13/05/2023-0.50m		Non Hazardous		72
28	WS10-13/05/2023-1.20m		Non Hazardous		74
29	WS11-13/05/2023-1.50m		Non Hazardous		76

Related documents

#	Name	Description
1	EMT-23-7686-Batch-1-202306051043.HWOL	Element .hwol file used to populate the Job

Report

Created by: Richard Wyatt

Created date: 21 Jun 2023 15:37 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	82
Appendix B: Rationale for selection of metal species	86
Appendix C: Version	86

Classification of sample: HP01-09/05/2023-0.50m

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

Sample details

Sample name:
HP01-09/05/2023-0.50m
Moisture content:
22.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 22.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				17.3 mg/kg	1.895	26.777 mg/kg	0.00268 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		**<LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		63 mg/kg	3.929	202.231 mg/kg	0.0202 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	296 mg/kg	1.57	379.648 mg/kg	0.0242 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.4 mg/kg	1.419	0.464 mg/kg	0.0000464 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		42 mg/kg	5.324	182.697 mg/kg	0.0183 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.086 mg/kg	0.000209 %	✓	
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		71 mg/kg	4.398	255.108 mg/kg	0.0255 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		**<LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		60 µg/kg		0.049 mg/kg	0.0000049 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.04 mg/kg		0.0327 mg/kg	0.00000327 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.15 mg/kg		0.123 mg/kg	0.0000123 %	✓	
13	fluorene		201-695-5	86-73-7		0.16 mg/kg		0.131 mg/kg	0.0000131 %	✓	
14	phenanthrene		201-581-5	85-01-8		1.69 mg/kg		1.381 mg/kg	0.000138 %	✓	
15	anthracene		204-371-1	120-12-7		0.47 mg/kg		0.384 mg/kg	0.0000384 %	✓	

#		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									
16		fluoranthene				1.59	mg/kg		1.299	mg/kg	0.00013 %	✓	
			205-912-4	206-44-0									
17		pyrene				1.55	mg/kg		1.266	mg/kg	0.000127 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.83	mg/kg		0.678	mg/kg	0.0000678 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.86	mg/kg		0.703	mg/kg	0.0000703 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.67	mg/kg		0.547	mg/kg	0.0000547 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.27	mg/kg		0.221	mg/kg	0.0000221 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.07	mg/kg		0.0572	mg/kg	0.00000572 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.31	mg/kg		0.253	mg/kg	0.0000253 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				0.75	mg/kg		0.613	mg/kg	0.0000613 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.29	mg/kg		0.237	mg/kg	0.0000237 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.68	pH		8.68	pH	8.68 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				84.1	mg/kg	1.462	100.422	mg/kg	0.01 %	✓	
			215-160-9	1308-38-9									
										Total:	0.102 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00004%)

Classification of sample: HP02-09/05/2023-0.50m

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

Sample details

Sample name:
HP02-09/05/2023-0.50m
Moisture content:
20.3%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 20.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				71.9 mg/kg	1.895	113.23 mg/kg	0.0113 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		142 mg/kg	3.929	463.778 mg/kg	0.0464 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	155 mg/kg	1.57	202.273 mg/kg	0.0129 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.7 mg/kg	1.419	0.826 mg/kg	0.0000826 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		65.4 mg/kg	5.324	289.451 mg/kg	0.0289 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		127 mg/kg	4.398	464.286 mg/kg	0.0464 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		400 µg/kg		0.333 mg/kg	0.0000333 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.16 mg/kg		0.133 mg/kg	0.0000133 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.34 mg/kg		0.283 mg/kg	0.0000283 %	✓	
13	fluorene		201-695-5	86-73-7		0.37 mg/kg		0.308 mg/kg	0.0000308 %	✓	
14	phenanthrene		201-581-5	85-01-8		5.44 mg/kg		4.522 mg/kg	0.000452 %	✓	
15	anthracene		204-371-1	120-12-7		1.14 mg/kg		0.948 mg/kg	0.0000948 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		5.77	mg/kg		4.796	mg/kg	0.00048 %	✓	
17		pyrene	204-927-3	129-00-0		5.64	mg/kg		4.688	mg/kg	0.000469 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		2.62	mg/kg		2.178	mg/kg	0.000218 %	✓	
		601-033-00-9											
19		chrysene	205-923-4	218-01-9		2.85	mg/kg		2.369	mg/kg	0.000237 %	✓	
		601-048-00-0											
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		2.32	mg/kg		1.929	mg/kg	0.000193 %	✓	
		601-032-00-3											
21		indeno[123-cd]pyrene	205-893-2	193-39-5		1.19	mg/kg		0.989	mg/kg	0.0000989 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.22	mg/kg		0.183	mg/kg	0.0000183 %	✓	
		601-041-00-2											
23		benzo[ghi]perylene	205-883-8	191-24-2		1.29	mg/kg		1.072	mg/kg	0.000107 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		2.81	mg/kg		2.336	mg/kg	0.000234 %	✓	
		601-034-00-4											
25		benzo[k]fluoranthene	205-916-6	207-08-9		1.09	mg/kg		0.906	mg/kg	0.0000906 %	✓	
		601-036-00-5											
26		pH		PH		8.68	pH		8.68	pH	8.68 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		70.8	mg/kg	1.462	86.017	mg/kg	0.0086 %	✓	
										Total:	0.158 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00008%)

Classification of sample: HP03-09/05/2023-0.50m

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

Sample details

Sample name:
HP03-09/05/2023-0.50m
Moisture content:
13.3%
(dry weight correction)

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

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

copper sulphate pentahydrate: (compound conc.: 0.512%)

Determinands

Moisture content: 13.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				27.8	mg/kg	1.895	46.485	mg/kg	0.00465 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		1477	mg/kg	3.929	5121.987	mg/kg	0.512 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	272	mg/kg	1.57	376.886	mg/kg	0.024 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.4	mg/kg	1.419	0.501	mg/kg	0.0000501 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		39.2	mg/kg	5.324	184.212	mg/kg	0.0184 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		226	mg/kg	4.398	877.256	mg/kg	0.0877 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		26830	µg/kg		23.68	mg/kg	0.00237 %	✓	
11	acenaphthylene		205-917-1	208-96-8		1.37	mg/kg		1.209	mg/kg	0.000121 %	✓	
12	acenaphthene		201-469-6	83-32-9		54.06	mg/kg		47.714	mg/kg	0.00477 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		fluorene		201-695-5	86-73-7		33.12	mg/kg		29.232	mg/kg	0.00292 %	✓	
14		phenanthrene		201-581-5	85-01-8		274.34	mg/kg		242.136	mg/kg	0.0242 %	✓	
15		anthracene		204-371-1	120-12-7		71.85	mg/kg		63.416	mg/kg	0.00634 %	✓	
16		fluoranthene		205-912-4	206-44-0		291.31	mg/kg		257.114	mg/kg	0.0257 %	✓	
17		pyrene		204-927-3	129-00-0		250.97	mg/kg		221.509	mg/kg	0.0222 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		110.2	mg/kg		97.264	mg/kg	0.00973 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		106.6	mg/kg		94.086	mg/kg	0.00941 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		107.79	mg/kg		95.137	mg/kg	0.00951 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		61.48	mg/kg		54.263	mg/kg	0.00543 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		10.87	mg/kg		9.594	mg/kg	0.000959 %	✓	
23		benzo[ghi]perylene		205-883-8	191-24-2		64.2	mg/kg		56.664	mg/kg	0.00567 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		119.86	mg/kg		105.79	mg/kg	0.0106 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		46.61	mg/kg		41.139	mg/kg	0.00411 %	✓	
26		pH			PH		7.95	pH		7.95	pH	7.95 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		44.3	mg/kg	1.462	57.146	mg/kg	0.00571 %	✓	
											Total:	0.797 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00005%)

Classification of sample: HP05-10/05/2023-0.50m

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

Sample details

Sample name:
HP05-10/05/2023-0.50m
Moisture content:
34.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 34.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				18.1 mg/kg	1.895	25.476 mg/kg	0.00255 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		81 mg/kg	3.929	236.444 mg/kg	0.0236 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	72 mg/kg	1.57	83.977 mg/kg	0.00535 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		1.2 mg/kg	1.419	1.265 mg/kg	0.000127 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		43.5 mg/kg	5.324	172.071 mg/kg	0.0172 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	1.897 mg/kg	0.00019 %	✓	
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		256 mg/kg	4.398	836.455 mg/kg	0.0836 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		50 µg/kg		0.0371 mg/kg	0.00000371 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.05 mg/kg		0.0371 mg/kg	0.00000371 %	✓	
12	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	fluorene		201-695-5	86-73-7		0.07 mg/kg		0.052 mg/kg	0.0000052 %	✓	
14	phenanthrene		201-581-5	85-01-8		0.98 mg/kg		0.728 mg/kg	0.0000728 %	✓	
15	anthracene		204-371-1	120-12-7		0.2 mg/kg		0.149 mg/kg	0.0000149 %	✓	

#		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									
16		fluoranthene				0.87	mg/kg		0.646	mg/kg	0.0000646 %	✓	
			205-912-4	206-44-0									
17		pyrene				0.96	mg/kg		0.713	mg/kg	0.0000713 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.51	mg/kg		0.379	mg/kg	0.0000379 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.55	mg/kg		0.409	mg/kg	0.0000409 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.48	mg/kg		0.357	mg/kg	0.0000357 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.24	mg/kg		0.178	mg/kg	0.0000178 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.26	mg/kg		0.193	mg/kg	0.0000193 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				0.55	mg/kg		0.409	mg/kg	0.0000409 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.22	mg/kg		0.163	mg/kg	0.0000163 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.22	pH		8.22	pH	8.22 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				54.2	mg/kg	1.462	58.853	mg/kg	0.00589 %	✓	
			215-160-9	1308-38-9									
										Total:	0.139 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00012%)

Classification of sample: HP06-10/05/2023-0.50m

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

Sample details

Sample name:
HP06-10/05/2023-0.50m
Moisture content:
24.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 24.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				10.4 mg/kg	1.895	15.838 mg/kg	0.00158 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		29 mg/kg	3.929	91.594 mg/kg	0.00916 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	16 mg/kg	1.57	20.192 mg/kg	0.00129 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1 mg/kg	1.419	<0.142 mg/kg	<0.0000142 %		<**LOD**
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		43.6 mg/kg	5.324	186.607 mg/kg	0.0187 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		75 mg/kg	4.398	265.148 mg/kg	0.0265 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		<40 µg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
11	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
12	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
14	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
15	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
17		pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
19		chrysene	601-048-00-0	205-923-4	218-01-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
23		benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
26		pH		PH		8.67	pH		8.67	pH	8.67 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		49.1	mg/kg	1.462	57.687	mg/kg	0.00577 %	✓	
										Total:	0.0634 %		

Key

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

Classification of sample: HP07-10/05/2023-0.50m

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

Sample details

Sample name:
HP07-10/05/2023-0.50m
Moisture content:
28.6%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 28.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8.5 mg/kg	1.895	12.522 mg/kg	0.00125 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<LOD
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		31 mg/kg	3.929	94.713 mg/kg	0.00947 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	14 mg/kg	1.57	17.091 mg/kg	0.00109 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1 mg/kg	1.419	<0.142 mg/kg	<0.0000142 %		<LOD
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		42 mg/kg	5.324	173.889 mg/kg	0.0174 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		75 mg/kg	4.398	256.489 mg/kg	0.0256 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
10	naphthalene	601-052-00-2	202-049-5	91-20-3		<40 µg/kg		<0.04 mg/kg	<0.000004 %		<LOD
11	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
12	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
13	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
14	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
15	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
17		pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
18		benzo[a]anthracene	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
19		chrysene	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
22		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
23		benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		benzo[b]fluoranthene	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
25		benzo[k]fluoranthene	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
26		pH		PH		8.44	pH		8.44	pH	8.44 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		48.3	mg/kg	1.462	54.894	mg/kg	0.00549 %	✓	
										Total:	0.0608 %		

Key

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

Classification of sample: HP09-11/05/2023-0.50m

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

Sample details

Sample name:
HP09-11/05/2023-0.50m
Moisture content:
23.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 23.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				23.2 mg/kg	1.895	35.503 mg/kg	0.00355 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		88 mg/kg	3.929	279.286 mg/kg	0.0279 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	115 mg/kg	1.57	145.83 mg/kg	0.00929 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.344 mg/kg	0.0000344 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		48.8 mg/kg	5.324	209.876 mg/kg	0.021 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		55 mg/kg	4.398	195.384 mg/kg	0.0195 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		530 µg/kg		0.428 mg/kg	0.0000428 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.22 mg/kg		0.178 mg/kg	0.0000178 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.41 mg/kg		0.331 mg/kg	0.0000331 %	✓	
13	fluorene		201-695-5	86-73-7		0.46 mg/kg		0.372 mg/kg	0.0000372 %	✓	
14	phenanthrene		201-581-5	85-01-8		5.48 mg/kg		4.426 mg/kg	0.000443 %	✓	
15	anthracene		204-371-1	120-12-7		1.3 mg/kg		1.05 mg/kg	0.000105 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		5.4	mg/kg		4.362	mg/kg	0.000436 %	✓	
17		pyrene	204-927-3	129-00-0		5.6	mg/kg		4.523	mg/kg	0.000452 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		2.62	mg/kg		2.116	mg/kg	0.000212 %	✓	
19		chrysene	205-923-4	218-01-9		2.87	mg/kg		2.318	mg/kg	0.000232 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		2.44	mg/kg		1.971	mg/kg	0.000197 %	✓	
21		indeno[123-cd]pyrene	205-893-2	193-39-5		1.11	mg/kg		0.897	mg/kg	0.0000897 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.24	mg/kg		0.194	mg/kg	0.0000194 %	✓	
23		benzo[ghi]perylene	205-883-8	191-24-2		1.16	mg/kg		0.937	mg/kg	0.0000937 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		2.74	mg/kg		2.213	mg/kg	0.000221 %	✓	
25		benzo[k]fluoranthene	205-916-6	207-08-9		1.06	mg/kg		0.856	mg/kg	0.0000856 %	✓	
26		pH		PH		8.53	pH		8.53	pH	8.53 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		44.8	mg/kg	1.462	52.89	mg/kg	0.00529 %	✓	
										Total:	0.0897 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

Classification of sample: HP10-11/05/2023-0.50m

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

Sample details

Sample name:
HP10-11/05/2023-0.50m
Moisture content:
17.2%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.3 mg/kg	1.895	18.266 mg/kg	0.00183 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		38 mg/kg	3.929	127.393 mg/kg	0.0127 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	133 mg/kg	1.57	178.154 mg/kg	0.0113 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.4 mg/kg	1.419	0.484 mg/kg	0.0000484 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		25.4 mg/kg	5.324	115.39 mg/kg	0.0115 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		65 mg/kg	4.398	243.912 mg/kg	0.0244 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		1500 µg/kg		1.28 mg/kg	0.000128 %	✓	
11	acenaphthylene		205-917-1	208-96-8		1.78 mg/kg		1.519 mg/kg	0.000152 %	✓	
12	acenaphthene		201-469-6	83-32-9		1.37 mg/kg		1.169 mg/kg	0.000117 %	✓	
13	fluorene		201-695-5	86-73-7		2.04 mg/kg		1.741 mg/kg	0.000174 %	✓	
14	phenanthrene		201-581-5	85-01-8		15.97 mg/kg		13.626 mg/kg	0.00136 %	✓	
15	anthracene		204-371-1	120-12-7		5.22 mg/kg		4.454 mg/kg	0.000445 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		14.39	mg/kg		12.278	mg/kg	0.00123 %	✓	
17		pyrene	204-927-3	129-00-0		14.49	mg/kg		12.363	mg/kg	0.00124 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		8.13	mg/kg		6.937	mg/kg	0.000694 %	✓	
		601-033-00-9											
19		chrysene	205-923-4	218-01-9		7.31	mg/kg		6.237	mg/kg	0.000624 %	✓	
		601-048-00-0											
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		5.92	mg/kg		5.051	mg/kg	0.000505 %	✓	
		601-032-00-3											
21		indeno[123-cd]pyrene	205-893-2	193-39-5		2.44	mg/kg		2.082	mg/kg	0.000208 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.46	mg/kg		0.392	mg/kg	0.0000392 %	✓	
		601-041-00-2											
23		benzo[ghi]perylene	205-883-8	191-24-2		2.55	mg/kg		2.176	mg/kg	0.000218 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		6.36	mg/kg		5.427	mg/kg	0.000543 %	✓	
		601-034-00-4											
25		benzo[k]fluoranthene	205-916-6	207-08-9		2.48	mg/kg		2.116	mg/kg	0.000212 %	✓	
		601-036-00-5											
26		pH		PH		8.75	pH		8.75	pH	8.75 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		81.3	mg/kg	1.462	101.386	mg/kg	0.0101 %	✓	
										Total:	0.0803 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00004%)

Classification of sample: HP11-11/05/2023-0.50m

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

Sample details

Sample name:
HP11-11/05/2023-0.50m
Moisture content:
35.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 35.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				43.7 mg/kg	1.895	61.145 mg/kg	0.00611 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		268 mg/kg	3.929	777.686 mg/kg	0.0778 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	981 mg/kg	1.57	1137.421 mg/kg	0.0725 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.314 mg/kg	0.0000314 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		51.1 mg/kg	5.324	200.939 mg/kg	0.0201 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		399 mg/kg	4.398	1295.991 mg/kg	0.13 %	✓	
9	naphthalene	601-052-00-2	202-049-5	91-20-3		2780 µg/kg		2.053 mg/kg	0.000205 %	✓	
10	acenaphthylene		205-917-1	208-96-8		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
11	acenaphthene		201-469-6	83-32-9		10.06 mg/kg		7.43 mg/kg	0.000743 %	✓	
12	fluorene		201-695-5	86-73-7		14.62 mg/kg		10.798 mg/kg	0.00108 %	✓	
13	phenanthrene		201-581-5	85-01-8		38.9 mg/kg		28.73 mg/kg	0.00287 %	✓	
14	anthracene		204-371-1	120-12-7		5.09 mg/kg		3.759 mg/kg	0.000376 %	✓	
15	fluoranthene		205-912-4	206-44-0		8.41 mg/kg		6.211 mg/kg	0.000621 %	✓	
16	pyrene		204-927-3	129-00-0		9.26 mg/kg		6.839 mg/kg	0.000684 %	✓	

#		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									
17		benzo[a]anthracene				3.05	mg/kg		2.253	mg/kg	0.000225 %	✓	
		601-033-00-9	200-280-6	56-55-3									
18		chrysene				4.35	mg/kg		3.213	mg/kg	0.000321 %	✓	
		601-048-00-0	205-923-4	218-01-9									
19		benzo[a]pyrene; benzo[def]chrysene				2.11	mg/kg		1.558	mg/kg	0.000156 %	✓	
		601-032-00-3	200-028-5	50-32-8									
20	●	indeno[123-cd]pyrene				1.26	mg/kg		0.931	mg/kg	0.0000931 %	✓	
			205-893-2	193-39-5									
21		dibenz[a,h]anthracene				<0.4	mg/kg		<0.4	mg/kg	<0.00004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
22	●	benzo[ghi]perylene				1.42	mg/kg		1.049	mg/kg	0.000105 %	✓	
			205-883-8	191-24-2									
23		benzo[b]fluoranthene				2.94	mg/kg		2.171	mg/kg	0.000217 %	✓	
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				1.15	mg/kg		0.849	mg/kg	0.0000849 %	✓	
		601-036-00-5	205-916-6	207-08-9									
25	●	dichlorodifluoromethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
26		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
27		chloromethane; methyl chloride				11	µg/kg		0.0081	mg/kg	0.000000812 %	✓	
		602-001-00-7	200-817-4	74-87-3									
28		bromomethane; methylbromide				<1	µg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
29		chloroethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
30	●	trichlorofluoromethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
31		1,1-dichloroethylene; vinylidene chloride				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
32		dichloromethane; methylene chloride				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-004-00-3	200-838-9	75-09-2									
33		1,1-dichloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-011-00-1	200-863-5	75-34-3									
34	●	2,2-dichloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
35	●	bromochloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
36		chloroform; trichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
37		1,1,1-trichloroethane; methyl chloroform				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
38		1,1-dichloropropene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
39		carbon tetrachloride; tetrachloromethane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
40	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
41		trichloroethylene; trichloroethene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
42		1,2-dichloropropane; propylene dichloride				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									
43		dibromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3									
44	●	bromodichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-856-7	75-27-4									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
45		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
46	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
47		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
48		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
49	●	1,3-dichloropropane		205-531-3	142-28-9		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
50	●	dibromochloromethane		204-704-0	124-48-1		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
51		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
52		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
53	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
54		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
55		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
56		bromobenzene	602-060-00-9	203-623-8	108-86-1		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
57		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
58	●	tert-butylbenzene		202-632-4	98-06-6		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
59	●	sec-butylbenzene		205-227-0	135-98-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
60		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
61		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
62	●	n-butylbenzene		203-209-7	104-51-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
63		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
64		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
65		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
66	●	hexachlorobutadiene		201-765-5	87-68-3		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
67	●	1,2,3-trichlorobenzene		201-757-1	87-61-6		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
68		benzene	601-020-00-8	200-753-7	71-43-2		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
69		toluene	601-021-00-3	203-625-9	108-88-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
70	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
71		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		106	µg/kg		0.0783	mg/kg	0.00000783 %	✓	
72		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		459	µg/kg		0.339	mg/kg	0.0000339 %	✓	
73	●	4-isopropyltoluene		202-796-7	99-87-6		314	µg/kg		0.232	mg/kg	0.0000232 %	✓	

#		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									
74		vinyl chloride; chloroethylene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
75		styrene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
76		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
77		2-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
78		2,4-dichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
79		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
80		2,4,5-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
81		2,4,6-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
82		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
83		4-nitrophenol; p-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
84		pentachlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
85		phenol				383	µg/kg		0.283	mg/kg	0.0000283 %	✓	
		604-001-00-2	203-632-7	108-95-2									
86		2-chloronaphthalene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-079-9	91-58-7									
87		2-methyl naphthalene				3627	µg/kg		2.679	mg/kg	0.000268 %	✓	
			202-078-3	91-57-6									
88		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				3913	µg/kg		2.89	mg/kg	0.000289 %	✓	
		607-317-00-9	204-211-0	117-81-7									
89		BBP; benzyl butyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
90		dibutyl phthalate; DBP				672	µg/kg		0.496	mg/kg	0.0000496 %	✓	
		607-318-00-4	201-557-4	84-74-2									
91		di-n-octyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-214-7	117-84-0									
92		diethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
93		dimethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-011-6	131-11-3									
94		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
95		2,6-dinitrotoluene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
96		4-bromophenylphenylether				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
97		4-chloroaniline				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									

#		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									
98		4-chlorophenylphenylether				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
99		azobenzene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
100		bis(2-chloroethoxy)methane				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
101		bis(2-chloroethyl) ether				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
102		carbazole				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
103		dibenzofuran				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-071-3	132-64-9									
104		hexachlorobenzene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
105		hexachlorocyclopentadiene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
106		hexachloroethane				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
107		3,5,5-trimethylcyclohex-2-enone; isophorone				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
108		nitrosodipropylamine				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
109		nitrobenzene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
110		chromium { chromium(III) oxide (worst case) }				66.3	mg/kg	1.462	71.567	mg/kg	0.00716 %	✓	
			215-160-9	1308-38-9									
111		xylene				0.04	mg/kg		0.0295	mg/kg	0.00000295 %	✓	
		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]									
112		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
113		cumene; [1] propylbenzene [2]				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
114		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
115		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				429	µg/kg		0.317	mg/kg	0.0000317 %	✓	
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
116		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<30	µg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.322 %		

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 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

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

Because of determinands:

mesitylene; 1,3,5-trimethylbenzene: (conc.: 7.83e-06%)
1,2,4-trimethylbenzene: (conc.: 0.00003%)
4-isopropyltoluene: (conc.: 0.00002%)
xylene: (conc.: 2.95e-06%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"
Force this Hazardous property to non hazardous because No free phase contamination encountered.

Hazard Statements hit:

Flam. Gas 1; H220 "Extremely flammable gas."

Because of determinand:

chloromethane; methyl chloride: (conc.: 8.12e-07%)

Classification of sample: HP12-12/05/2023-0.50m

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

Sample details

Sample name:
HP12-12/05/2023-0.50m
Moisture content:
25.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 25.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				10.6 mg/kg	1.895	15.963 mg/kg	0.0016 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		**<LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		254 mg/kg	3.929	793.306 mg/kg	0.0793 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	204 mg/kg	1.57	254.578 mg/kg	0.0162 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.2 mg/kg	1.419	0.226 mg/kg	0.0000226 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		21.9 mg/kg	5.324	92.689 mg/kg	0.00927 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		**<LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		210 mg/kg	4.398	734.153 mg/kg	0.0734 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		**<LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		190 µg/kg		0.151 mg/kg	0.0000151 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.14 mg/kg		0.111 mg/kg	0.0000111 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.21 mg/kg		0.167 mg/kg	0.0000167 %	✓	
13	fluorene		201-695-5	86-73-7		0.19 mg/kg		0.151 mg/kg	0.0000151 %	✓	
14	phenanthrene		201-581-5	85-01-8		2.15 mg/kg		1.709 mg/kg	0.000171 %	✓	
15	anthracene		204-371-1	120-12-7		0.6 mg/kg		0.477 mg/kg	0.0000477 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		4.05	mg/kg		3.219	mg/kg	0.000322 %	✓	
17		pyrene	204-927-3	129-00-0		3.82	mg/kg		3.037	mg/kg	0.000304 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		2	mg/kg		1.59	mg/kg	0.000159 %	✓	
19		chrysene	205-923-4	218-01-9		2.16	mg/kg		1.717	mg/kg	0.000172 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		2.34	mg/kg		1.86	mg/kg	0.000186 %	✓	
21		indeno[123-cd]pyrene	205-893-2	193-39-5		1.22	mg/kg		0.97	mg/kg	0.000097 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.25	mg/kg		0.199	mg/kg	0.0000199 %	✓	
23		benzo[ghi]perylene	205-883-8	191-24-2		1.33	mg/kg		1.057	mg/kg	0.000106 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		2.63	mg/kg		2.091	mg/kg	0.000209 %	✓	
25		benzo[k]fluoranthene	205-916-6	207-08-9		1.02	mg/kg		0.811	mg/kg	0.0000811 %	✓	
26		pH		PH		7.65	pH		7.65	pH	7.65 pH		
27		dichlorodifluoromethane	200-893-9	75-71-8		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
28		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	216-653-1	1634-04-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
29		chloromethane; methyl chloride	200-817-4	74-87-3		8	µg/kg		0.0063	mg/kg	0.000000636 %	✓	
30		bromomethane; methylbromide	200-813-2	74-83-9		<1	µg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
31		chloroethane	200-830-5	75-00-3		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
32		trichlorofluoromethane	200-892-3	75-69-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
33		1,1-dichloroethylene; vinylidene chloride	200-864-0	75-35-4		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
34		dichloromethane; methylene chloride	200-838-9	75-09-2		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
35		1,1-dichloroethane	200-863-5	75-34-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
36		2,2-dichloropropane	209-832-0	594-20-7		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
37		bromochloromethane	200-826-3	74-97-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38		chloroform; trichloromethane	200-663-8	67-66-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
39		1,1,1-trichloroethane; methyl chloroform	200-756-3	71-55-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
40		1,1-dichloropropene	209-253-3	563-58-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
41		carbon tetrachloride; tetrachloromethane	200-262-8	56-23-5		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
42		1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
43		trichloroethylene; trichloroethene	201-167-4	79-01-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
44		1,2-dichloropropane; propylene dichloride	201-152-2	78-87-5		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		dibromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
46	●	bromodichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
47		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
48	●	trans-1,3-dichloropropene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
49		1,1,2-trichloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
50		tetrachloroethylene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
51	●	1,3-dichloropropane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
52	●	dibromochloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
53		1,2-dibromoethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
54		chlorobenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
55	●	1,1,1,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
56		bromoform; tribromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
57		1,1,2,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
58		bromobenzene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
59		1,2,3-trichloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
60	●	tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
61	●	sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
62		1,3-dichlorbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
63		1,4-dichlorobenzene; p-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
64	●	n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
65		1,2-dichlorobenzene; o-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
66		1,2-dibromo-3-chloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
67		1,2,4-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
68	●	hexachlorobutadiene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
69	●	1,2,3-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
70		benzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
71		toluene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
72	●	ethylbenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
73		mesitylene; 1,3,5-trimethylbenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									

#		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									
74		1,2,4-trimethylbenzene				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		601-043-00-3	202-436-9	95-63-6									
75	●	4-isopropyltoluene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			202-796-7	99-87-6									
76		vinyl chloride; chloroethylene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
77		styrene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
78		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
79	●	2-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
80		2,4-dichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
81		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
82		2,4,5-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
83		2,4,6-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
84		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
85		4-nitrophenol; p-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
86		pentachlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
87		phenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
88	●	2-chloronaphthalene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
89	●	2-methyl naphthalene				53	µg/kg		0.0421	mg/kg	0.00000421 %	✓	
			202-078-3	91-57-6									
90		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				146	µg/kg		0.116	mg/kg	0.0000116 %	✓	
		607-317-00-9	204-211-0	117-81-7									
91		BBP; benzyl butyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
92		dibutyl phthalate; DBP				166	µg/kg		0.132	mg/kg	0.0000132 %	✓	
		607-318-00-4	201-557-4	84-74-2									
93	●	di-n-octyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
94	●	diethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
95	●	dimethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
96		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
97		2,6-dinitrotoluene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
98		4-bromophenylphenylether		202-952-4	101-55-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
99		4-chloroaniline	612-137-00-9	203-401-0	106-47-8		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
100		4-chlorophenylphenylether		230-281-7	7005-72-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
101		azobenzene	611-001-00-6	203-102-5	103-33-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
102		bis(2-chloroethoxy)methane		203-920-2	111-91-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
103		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
104		carbazole		201-696-0	86-74-8		69	µg/kg		0.0548	mg/kg	0.00000548 %	✓	
105		dibenzofuran		205-071-3	132-64-9		45	µg/kg		0.0358	mg/kg	0.00000358 %	✓	
106		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
107		hexachlorocyclopentadiene	602-078-00-7	201-029-3	77-47-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
108		hexachloroethane		200-666-4	67-72-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
109		3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
110		nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
111		nitrobenzene	609-003-00-7	202-716-0	98-95-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
112		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
113		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
114		cumene; [1] propylbenzene [2]	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
115		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
116		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<20	µg/kg		<0.02	mg/kg	<0.000002 %		<LOD
117		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]	612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<30	µg/kg		<0.03	mg/kg	<0.000003 %		<LOD
118		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		47.5	mg/kg	1.462	55.186	mg/kg	0.00552 %	✓	
											Total:	0.188 %		

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 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00002%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because No free phase contamination encountered.

Hazard Statements hit:

Flam. Gas 1; H220 "Extremely flammable gas."

Because of determinand:

chloromethane; methyl chloride: (conc.: 6.36e-07%)

Classification of sample: HP13-12/05/2023-0.50m

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

Sample details

Sample name:
HP13-12/05/2023-0.50m
Moisture content:
13.2%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				12.9 mg/kg	1.895	21.59 mg/kg	0.00216 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		5.5 mg/kg	1.855	9.011 mg/kg	0.000901 %	✓	
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		37 mg/kg	3.929	128.423 mg/kg	0.0128 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	142 mg/kg	1.57	196.93 mg/kg	0.0125 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1 mg/kg	1.419	<0.142 mg/kg	<0.0000142 %		<**LOD**
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11 mg/kg	5.324	51.738 mg/kg	0.00517 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		158 mg/kg	4.398	613.845 mg/kg	0.0614 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		480 µg/kg		0.424 mg/kg	0.0000424 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.29 mg/kg		0.256 mg/kg	0.0000256 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.83 mg/kg		0.733 mg/kg	0.0000733 %	✓	
13	fluorene		201-695-5	86-73-7		0.62 mg/kg		0.548 mg/kg	0.0000548 %	✓	
14	phenanthrene		201-581-5	85-01-8		6.59 mg/kg		5.822 mg/kg	0.000582 %	✓	
15	anthracene		204-371-1	120-12-7		1.27 mg/kg		1.122 mg/kg	0.000112 %	✓	

#		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									
16		fluoranthene				6.23	mg/kg		5.504	mg/kg	0.00055 %	✓	
			205-912-4	206-44-0									
17		pyrene				5.69	mg/kg		5.027	mg/kg	0.000503 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				2.67	mg/kg		2.359	mg/kg	0.000236 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				2.97	mg/kg		2.624	mg/kg	0.000262 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				2.57	mg/kg		2.27	mg/kg	0.000227 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				1.44	mg/kg		1.272	mg/kg	0.000127 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.23	mg/kg		0.203	mg/kg	0.0000203 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				1.53	mg/kg		1.352	mg/kg	0.000135 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				3.25	mg/kg		2.871	mg/kg	0.000287 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				1.26	mg/kg		1.113	mg/kg	0.000111 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.18	pH		8.18	pH	8.18 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				26	mg/kg	1.462	33.569	mg/kg	0.00336 %	✓	
			215-160-9	1308-38-9									
										Total:	0.102 %		

Key

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

Classification of sample: TP01-11/05/2023-1.00m

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

Sample details

Sample name:
TP01-11/05/2023-1.00m
Moisture content:
30.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 30.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				25.3 mg/kg	1.895	36.842 mg/kg	0.00368 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		192 mg/kg	3.929	579.845 mg/kg	0.058 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	1095 mg/kg	1.57	1321.319 mg/kg	0.0842 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.4 mg/kg	1.419	0.436 mg/kg	0.0000436 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		42.8 mg/kg	5.324	175.158 mg/kg	0.0175 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		225 mg/kg	4.398	760.594 mg/kg	0.0761 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		20670 µg/kg		15.888 mg/kg	0.00159 %	✓	
11	acenaphthylene		205-917-1	208-96-8		9.21 mg/kg		7.079 mg/kg	0.000708 %	✓	
12	acenaphthene		201-469-6	83-32-9		24.97 mg/kg		19.193 mg/kg	0.00192 %	✓	
13	fluorene		201-695-5	86-73-7		24.6 mg/kg		18.909 mg/kg	0.00189 %	✓	
14	phenanthrene		201-581-5	85-01-8		229.31 mg/kg		176.257 mg/kg	0.0176 %	✓	
15	anthracene		204-371-1	120-12-7		58.04 mg/kg		44.612 mg/kg	0.00446 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16	●	fluoranthene		205-912-4	206-44-0		208.62	mg/kg		160.354	mg/kg	0.016 %	✓	
17	●	pyrene		204-927-3	129-00-0		216.46	mg/kg		166.38	mg/kg	0.0166 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		112.94	mg/kg		86.81	mg/kg	0.00868 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		110.74	mg/kg		85.119	mg/kg	0.00851 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		95.13	mg/kg		73.121	mg/kg	0.00731 %	✓	
21	●	indeno[123-cd]pyrene		205-893-2	193-39-5		45.35	mg/kg		34.858	mg/kg	0.00349 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		12.07	mg/kg		9.277	mg/kg	0.000928 %	✓	
23	●	benzo[ghi]perylene		205-883-8	191-24-2		50.58	mg/kg		38.878	mg/kg	0.00389 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		105.86	mg/kg		81.368	mg/kg	0.00814 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		41.17	mg/kg		31.645	mg/kg	0.00316 %	✓	
26	●	pH			PH		8.06	pH		8.06	pH	8.06 pH		
27	●	dichlorodifluoromethane		200-893-9	75-71-8		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
28		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
29		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
30		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<1	µg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
31		chloroethane	602-009-00-0	200-830-5	75-00-3		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
32	●	trichlorofluoromethane		200-892-3	75-69-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
33		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
34		dichloromethane; methylene chloride	602-004-00-3	200-838-9	75-09-2		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
35		1,1-dichloroethane	602-011-00-1	200-863-5	75-34-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
36	●	2,2-dichloropropane		209-832-0	594-20-7		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
37	●	bromochloromethane		200-826-3	74-97-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
38		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
39		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
40		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
41		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
42	●	1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
43		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
44		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		dibromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
46	●	bromodichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
47		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
48	●	trans-1,3-dichloropropene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
49		1,1,2-trichloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
50		tetrachloroethylene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
51	●	1,3-dichloropropane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
52	●	dibromochloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
53		1,2-dibromoethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
54		chlorobenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
55	●	1,1,1,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
56		bromoform; tribromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
57		1,1,2,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
58		bromobenzene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
59		1,2,3-trichloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
60	●	tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
61	●	sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
62		1,3-dichlorbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
63		1,4-dichlorobenzene; p-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
64	●	n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
65		1,2-dichlorobenzene; o-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
66		1,2-dibromo-3-chloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
67		1,2,4-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
68	●	hexachlorobutadiene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
69	●	1,2,3-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
70		benzene				9	µg/kg		0.0069	mg/kg	0.000000692 %	✓	
		601-020-00-8	200-753-7	71-43-2									
71		toluene				17	µg/kg		0.0131	mg/kg	0.00000131 %	✓	
		601-021-00-3	203-625-9	108-88-3									
72	●	ethylbenzene				22	µg/kg		0.0169	mg/kg	0.00000169 %	✓	
		601-023-00-4	202-849-4	100-41-4									
73		mesitylene; 1,3,5-trimethylbenzene				30	µg/kg		0.0231	mg/kg	0.00000231 %	✓	
		601-025-00-5	203-604-4	108-67-8									

#		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									
74		1,2,4-trimethylbenzene				129	µg/kg		0.0992	mg/kg	0.00000992 %	✓	
		601-043-00-3	202-436-9	95-63-6									
75	●	4-isopropyltoluene				22	µg/kg		0.0169	mg/kg	0.00000169 %	✓	
			202-796-7	99-87-6									
76		vinyl chloride; chloroethylene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
77		styrene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
78		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
79	●	2-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
80		2,4-dichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
81		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				1311	µg/kg		1.008	mg/kg	0.000101 %	✓	
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
82		2,4,5-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
83		2,4,6-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
84		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
85		4-nitrophenol; p-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
86		pentachlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
87		phenol				1242	µg/kg		0.955	mg/kg	0.0000955 %	✓	
		604-001-00-2	203-632-7	108-95-2									
88	●	2-chloronaphthalene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
89	●	2-methyl naphthalene				9640	µg/kg		7.41	mg/kg	0.000741 %	✓	
			202-078-3	91-57-6									
90		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				316	µg/kg		0.243	mg/kg	0.0000243 %	✓	
		607-317-00-9	204-211-0	117-81-7									
91		BBP; benzyl butyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
92		dibutyl phthalate; DBP				159	µg/kg		0.122	mg/kg	0.0000122 %	✓	
		607-318-00-4	201-557-4	84-74-2									
93	●	di-n-octyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
94	●	diethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
95	●	dimethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
96		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
97		2,6-dinitrotoluene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
98		4-bromophenylphenylether		202-952-4	101-55-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
99		4-chloroaniline	612-137-00-9	203-401-0	106-47-8		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
100		4-chlorophenylphenylether		230-281-7	7005-72-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
101		azobenzene	611-001-00-6	203-102-5	103-33-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
102		bis(2-chloroethoxy)methane		203-920-2	111-91-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
103		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
104		carbazole		201-696-0	86-74-8		16162	µg/kg		12.423	mg/kg	0.00124 %	✓	
105		dibenzofuran		205-071-3	132-64-9		9531	µg/kg		7.326	mg/kg	0.000733 %	✓	
106		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
107		hexachlorocyclopentadiene	602-078-00-7	201-029-3	77-47-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
108		hexachloroethane		200-666-4	67-72-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
109		3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
110		nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
111		nitrobenzene	609-003-00-7	202-716-0	98-95-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
112		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.147	mg/kg		0.113	mg/kg	0.0000113 %	✓	
113		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
114		cumene; [1] propylbenzene [2]	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
115		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
116		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		2561	µg/kg		1.968	mg/kg	0.000197 %	✓	
117		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]	612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<30	µg/kg		<0.03	mg/kg	<0.000003 %		<LOD
118		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		46	mg/kg	1.462	51.677	mg/kg	0.00517 %	✓	
											Total:	0.353 %		

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 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00004%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

benzene: (conc.: 6.92e-07%)
toluene: (conc.: 1.31e-06%)
ethylbenzene: (conc.: 1.69e-06%)

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

Because of determinands:

mesitylene; 1,3,5-trimethylbenzene: (conc.: 2.31e-06%)
1,2,4-trimethylbenzene: (conc.: 9.92e-06%)
4-isopropyltoluene: (conc.: 1.69e-06%)
xylene: (conc.: 0.00001%)

Classification of sample: TP02-11/05/2023-0.50m

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

Sample details

Sample name:
TP02-11/05/2023-0.50m
Moisture content:
14.7%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				17 mg/kg	1.895	28.079 mg/kg	0.00281 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		100 mg/kg	3.929	342.55 mg/kg	0.0343 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	319 mg/kg	1.57	436.614 mg/kg	0.0278 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.371 mg/kg	0.0000371 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		20.9 mg/kg	5.324	97.016 mg/kg	0.0097 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		199 mg/kg	4.398	763.023 mg/kg	0.0763 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		810 µg/kg		0.706 mg/kg	0.0000706 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.34 mg/kg		0.296 mg/kg	0.0000296 %	✓	
12	acenaphthene		201-469-6	83-32-9		1.66 mg/kg		1.447 mg/kg	0.000145 %	✓	
13	fluorene		201-695-5	86-73-7		1.45 mg/kg		1.264 mg/kg	0.000126 %	✓	
14	phenanthrene		201-581-5	85-01-8		11.18 mg/kg		9.747 mg/kg	0.000975 %	✓	
15	anthracene		204-371-1	120-12-7		3.21 mg/kg		2.799 mg/kg	0.00028 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		13.88	mg/kg		12.101	mg/kg	0.00121 %	✓	
17		pyrene	204-927-3	129-00-0		12.3	mg/kg		10.724	mg/kg	0.00107 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		5.99	mg/kg		5.222	mg/kg	0.000522 %	✓	
19		chrysene	205-923-4	218-01-9		6.47	mg/kg		5.641	mg/kg	0.000564 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		6.45	mg/kg		5.623	mg/kg	0.000562 %	✓	
21		indeno[123-cd]pyrene	205-893-2	193-39-5		3.61	mg/kg		3.147	mg/kg	0.000315 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.55	mg/kg		0.48	mg/kg	0.000048 %	✓	
23		benzo[ghi]perylene	205-883-8	191-24-2		3.68	mg/kg		3.208	mg/kg	0.000321 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		7.46	mg/kg		6.504	mg/kg	0.00065 %	✓	
25		benzo[k]fluoranthene	205-916-6	207-08-9		2.9	mg/kg		2.528	mg/kg	0.000253 %	✓	
26		pH		PH		8.11	pH		8.11	pH	8.11 pH		
27		dichlorodifluoromethane	200-893-9	75-71-8		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
28		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	216-653-1	1634-04-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
29		chloromethane; methyl chloride	200-817-4	74-87-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
30		bromomethane; methylbromide	200-813-2	74-83-9		<1	µg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
31		chloroethane	200-830-5	75-00-3		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
32		trichlorofluoromethane	200-892-3	75-69-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
33		1,1-dichloroethylene; vinylidene chloride	200-864-0	75-35-4		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
34		dichloromethane; methylene chloride	200-838-9	75-09-2		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
35		1,1-dichloroethane	200-863-5	75-34-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
36		2,2-dichloropropane	209-832-0	594-20-7		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
37		bromochloromethane	200-826-3	74-97-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
38		chloroform; trichloromethane	200-663-8	67-66-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
39		1,1,1-trichloroethane; methyl chloroform	200-756-3	71-55-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
40		1,1-dichloropropene	209-253-3	563-58-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
41		carbon tetrachloride; tetrachloromethane	200-262-8	56-23-5		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
42		1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
43		trichloroethylene; trichloroethene	201-167-4	79-01-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
44		1,2-dichloropropane; propylene dichloride	201-152-2	78-87-5		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		dibromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
46	●	bromodichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
47		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
48	●	trans-1,3-dichloropropene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
49		1,1,2-trichloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
50		tetrachloroethylene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
51	●	1,3-dichloropropane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
52	●	dibromochloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
53		1,2-dibromoethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
54		chlorobenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
55	●	1,1,1,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
56		bromoform; tribromomethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
57		1,1,2,2-tetrachloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
58		bromobenzene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
59		1,2,3-trichloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
60	●	tert-butylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
61	●	sec-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
62		1,3-dichlorbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
63		1,4-dichlorobenzene; p-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
64	●	n-butylbenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
65		1,2-dichlorobenzene; o-dichlorobenzene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
66		1,2-dibromo-3-chloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
67		1,2,4-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
68	●	hexachlorobutadiene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
69	●	1,2,3-trichlorobenzene				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
70		benzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
71		toluene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
72	●	ethylbenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
73		mesitylene; 1,3,5-trimethylbenzene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
74		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		8	µg/kg		0.0069	mg/kg	0.000000697 %	✓	
75	●	4-isopropyltoluene		202-796-7	99-87-6		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
76		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
77		styrene	601-026-00-0	202-851-5	100-42-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
78		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
79	●	2-nitrophenol		201-857-5	88-75-5		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
80		2,4-dichlorophenol	604-011-00-7	204-429-6	120-83-2		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
81		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]	604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
82		2,4,5-trichlorophenol	604-017-00-X	202-467-8	95-95-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
83		2,4,6-trichlorophenol	604-018-00-5	201-795-9	88-06-2		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
84		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol	604-014-00-3	200-431-6	59-50-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
85		4-nitrophenol; p-nitrophenol	609-015-00-2	202-811-7	100-02-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
86		pentachlorophenol	604-002-00-8	201-778-6	87-86-5		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
87		phenol	604-001-00-2	203-632-7	108-95-2		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
88	●	2-chloronaphthalene		202-079-9	91-58-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
89	●	2-methyl naphthalene		202-078-3	91-57-6		349	µg/kg		0.304	mg/kg	0.0000304 %	✓	
90		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP	607-317-00-9	204-211-0	117-81-7		354	µg/kg		0.309	mg/kg	0.0000309 %	✓	
91		BBP; benzyl butyl phthalate	607-430-00-3	201-622-7	85-68-7		<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
92		dibutyl phthalate; DBP	607-318-00-4	201-557-4	84-74-2		171	µg/kg		0.149	mg/kg	0.0000149 %	✓	
93	●	di-n-octyl phthalate		204-214-7	117-84-0		<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
94	●	diethyl phthalate		201-550-6	84-66-2		<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
95	●	dimethyl phthalate		205-011-6	131-11-3		<100	µg/kg		<0.1	mg/kg	<0.00001 %		<LOD
96		2,4-dinitrotoluene; [1] dinitrotoluene [2]	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
97		2,6-dinitrotoluene	609-049-00-8	210-106-0	606-20-2		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
98		4-bromophenylphenylether		202-952-4	101-55-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
99		4-chloroaniline	612-137-00-9	203-401-0	106-47-8		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
100		4-chlorophenylphenylether		230-281-7	7005-72-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
101		azobenzene	611-001-00-6	203-102-5	103-33-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
102		bis(2-chloroethoxy)methane		203-920-2	111-91-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
103		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
104		carbazole		201-696-0	86-74-8		473	µg/kg		0.412	mg/kg	0.0000412 %	✓	
105		dibenzofuran		205-071-3	132-64-9		299	µg/kg		0.261	mg/kg	0.0000261 %	✓	
106		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
107		hexachlorocyclopentadiene	602-078-00-7	201-029-3	77-47-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
108		hexachloroethane		200-666-4	67-72-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
109		3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
110		nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
111		nitrobenzene	609-003-00-7	202-716-0	98-95-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
112		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
113		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
114		cumene; [1] propylbenzene [2]	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
115		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
116		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<20	µg/kg		<0.02	mg/kg	<0.000002 %		<LOD
117		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]	612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<30	µg/kg		<0.03	mg/kg	<0.000003 %		<LOD
118		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		46.9	mg/kg	1.462	59.762	mg/kg	0.00598 %	✓	
											Total:	0.165 %		

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 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"
Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

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

Because of determinand:

1,2,4-trimethylbenzene: (conc.: 6.97e-07%)

Classification of sample: TP03-11/05/2023-1.00m

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

Sample details

Sample name:
TP03-11/05/2023-1.00m
Moisture content:
17.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				10.2	mg/kg	1.895	16.446	mg/kg	0.00164 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		361	mg/kg	3.929	1207.139	mg/kg	0.121 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	98	mg/kg	1.57	130.936	mg/kg	0.00834 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3	mg/kg	1.419	0.362	mg/kg	0.0000362 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		18.7	mg/kg	5.324	84.736	mg/kg	0.00847 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		117	mg/kg	4.398	437.921	mg/kg	0.0438 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		260	µg/kg		0.221	mg/kg	0.0000221 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.13	mg/kg		0.111	mg/kg	0.0000111 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.28	mg/kg		0.238	mg/kg	0.0000238 %	✓	
13	fluorene		201-695-5	86-73-7		0.27	mg/kg		0.23	mg/kg	0.000023 %	✓	
14	phenanthrene		201-581-5	85-01-8		2.24	mg/kg		1.906	mg/kg	0.000191 %	✓	
15	anthracene		204-371-1	120-12-7		0.63	mg/kg		0.536	mg/kg	0.0000536 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		3.01	mg/kg		2.562	mg/kg	0.000256 %	✓	
17		pyrene	204-927-3	129-00-0		3.11	mg/kg		2.647	mg/kg	0.000265 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		1.53	mg/kg		1.302	mg/kg	0.00013 %	✓	
		601-033-00-9											
19		chrysene	205-923-4	218-01-9		1.69	mg/kg		1.438	mg/kg	0.000144 %	✓	
		601-048-00-0											
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		1.88	mg/kg		1.6	mg/kg	0.00016 %	✓	
		601-032-00-3											
21		indeno[123-cd]pyrene	205-893-2	193-39-5		1.03	mg/kg		0.877	mg/kg	0.0000877 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		0.22	mg/kg		0.187	mg/kg	0.0000187 %	✓	
		601-041-00-2											
23		benzo[ghi]perylene	205-883-8	191-24-2		0.99	mg/kg		0.843	mg/kg	0.0000843 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		1.98	mg/kg		1.685	mg/kg	0.000169 %	✓	
		601-034-00-4											
25		benzo[k]fluoranthene	205-916-6	207-08-9		0.77	mg/kg		0.655	mg/kg	0.0000655 %	✓	
		601-036-00-5											
26		pH		PH		8.6	pH		8.6	pH	8.6 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		40.9	mg/kg	1.462	50.875	mg/kg	0.00509 %	✓	
										Total:	0.19 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

Classification of sample: TP04-11/05/2023-2.00m

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

Sample details

Sample name:
TP04-11/05/2023-2.00m
Moisture content:
13.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				7.4 mg/kg	1.895	12.309 mg/kg	0.00123 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		98 mg/kg	3.929	338.057 mg/kg	0.0338 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	187 mg/kg	1.57	257.744 mg/kg	0.0164 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.2 mg/kg	1.419	0.249 mg/kg	0.0000249 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		44.2 mg/kg	5.324	206.615 mg/kg	0.0207 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		136 mg/kg	4.398	525.125 mg/kg	0.0525 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		220 µg/kg		0.193 mg/kg	0.0000193 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.11 mg/kg		0.0966 mg/kg	0.00000966 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.93 mg/kg		0.817 mg/kg	0.0000817 %	✓	
13	fluorene		201-695-5	86-73-7		0.91 mg/kg		0.799 mg/kg	0.0000799 %	✓	
14	phenanthrene		201-581-5	85-01-8		3.95 mg/kg		3.468 mg/kg	0.000347 %	✓	
15	anthracene		204-371-1	120-12-7		0.79 mg/kg		0.694 mg/kg	0.0000694 %	✓	

#		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									
16		fluoranthene				3.8	mg/kg		3.336	mg/kg	0.000334 %	✓	
			205-912-4	206-44-0									
17		pyrene				3.57	mg/kg		3.134	mg/kg	0.000313 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				1.64	mg/kg		1.44	mg/kg	0.000144 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				1.9	mg/kg		1.668	mg/kg	0.000167 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				1.29	mg/kg		1.133	mg/kg	0.000113 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.83	mg/kg		0.729	mg/kg	0.0000729 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.22	mg/kg		0.193	mg/kg	0.0000193 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.92	mg/kg		0.808	mg/kg	0.0000808 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				1.66	mg/kg		1.457	mg/kg	0.000146 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.64	mg/kg		0.562	mg/kg	0.0000562 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				7.76	pH		7.76	pH	7.76 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				59.5	mg/kg	1.462	76.35	mg/kg	0.00763 %	✓	
			215-160-9	1308-38-9									
										Total:	0.135 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00002%)

Classification of sample: TP05-11/05/2023-1.00m

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

Sample details

Sample name:
TP05-11/05/2023-1.00m
Moisture content:
18.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 18.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				15.3 mg/kg	1.895	24.379 mg/kg	0.00244 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		107 mg/kg	3.929	353.582 mg/kg	0.0354 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	586 mg/kg	1.57	773.725 mg/kg	0.0493 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.6 mg/kg	1.419	0.716 mg/kg	0.0000716 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		28.8 mg/kg	5.324	128.965 mg/kg	0.0129 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		212 mg/kg	4.398	784.155 mg/kg	0.0784 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		120 µg/kg		0.101 mg/kg	0.0000101 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.07 mg/kg		0.0589 mg/kg	0.00000589 %	✓	
12	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
14	phenanthrene		201-581-5	85-01-8		0.63 mg/kg		0.53 mg/kg	0.000053 %	✓	
15	anthracene		204-371-1	120-12-7		0.27 mg/kg		0.227 mg/kg	0.0000227 %	✓	

#		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									
16		fluoranthene				1.39	mg/kg		1.169	mg/kg	0.000117 %	✓	
			205-912-4	206-44-0									
17		pyrene				1.22	mg/kg		1.026	mg/kg	0.000103 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.69	mg/kg		0.58	mg/kg	0.000058 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.82	mg/kg		0.69	mg/kg	0.000069 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.9	mg/kg		0.757	mg/kg	0.0000757 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.63	mg/kg		0.53	mg/kg	0.000053 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.11	mg/kg		0.0925	mg/kg	0.00000925 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.73	mg/kg		0.614	mg/kg	0.0000614 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				1.12	mg/kg		0.942	mg/kg	0.0000942 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.43	mg/kg		0.362	mg/kg	0.0000362 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.56	pH		8.56	pH	8.56 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				47	mg/kg	1.462	57.774	mg/kg	0.00578 %	✓	
			215-160-9	1308-38-9									
										Total:	0.185 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00007%)

Classification of sample: TP06-11/05/2023-0.50m

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

Sample details

Sample name:
TP06-11/05/2023-0.50m
Moisture content:
21.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 21.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				35.1 mg/kg	1.895	54.776 mg/kg	0.00548 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		153 mg/kg	3.929	495.177 mg/kg	0.0495 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	715 mg/kg	1.57	924.609 mg/kg	0.0589 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.4 mg/kg	1.419	0.468 mg/kg	0.0000468 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		27.6 mg/kg	5.324	121.047 mg/kg	0.0121 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		301 mg/kg	4.398	1090.425 mg/kg	0.109 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		100 µg/kg		0.0824 mg/kg	0.00000824 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.05 mg/kg		0.0412 mg/kg	0.00000412 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.1 mg/kg		0.0824 mg/kg	0.00000824 %	✓	
13	fluorene		201-695-5	86-73-7		0.06 mg/kg		0.0494 mg/kg	0.00000494 %	✓	
14	phenanthrene		201-581-5	85-01-8		0.89 mg/kg		0.733 mg/kg	0.0000733 %	✓	
15	anthracene		204-371-1	120-12-7		0.21 mg/kg		0.173 mg/kg	0.0000173 %	✓	

#		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									
16		fluoranthene				1.35	mg/kg		1.112	mg/kg	0.000111 %	✓	
			205-912-4	206-44-0									
17		pyrene				1.32	mg/kg		1.087	mg/kg	0.000109 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.59	mg/kg		0.486	mg/kg	0.0000486 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.68	mg/kg		0.56	mg/kg	0.000056 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.63	mg/kg		0.519	mg/kg	0.0000519 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.36	mg/kg		0.297	mg/kg	0.0000297 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.06	mg/kg		0.0494	mg/kg	0.00000494 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.42	mg/kg		0.346	mg/kg	0.0000346 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				0.74	mg/kg		0.61	mg/kg	0.000061 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.29	mg/kg		0.239	mg/kg	0.0000239 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.38	pH		8.38	pH	8.38 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				36.8	mg/kg	1.462	44.304	mg/kg	0.00443 %	✓	
			215-160-9	1308-38-9									
										Total:	0.241 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00004%)

Classification of sample: TP06-11/05/2023-2.70m

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

Sample details

Sample name:
TP06-11/05/2023-2.70m

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

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		7.89 pH		7.89 pH	7.89 pH		
								Total:	0%		

Key

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

Classification of sample: TP07-11/05/2023-1.00m

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

Sample details

Sample name:
TP07-11/05/2023-1.00m
Moisture content:
13.1%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13.1% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				9.6	mg/kg	1.895	16.081	mg/kg	0.00161 %	✓	
2		cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.1	mg/kg	1.855	0.164	mg/kg	0.0000164 %	✓	
3		copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		64	mg/kg	3.929	222.334	mg/kg	0.0222 %	✓	
4		lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	117	mg/kg	1.57	162.403	mg/kg	0.0103 %	✓	
5		mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1	mg/kg	1.419	<0.142	mg/kg	<0.0000142 %		<**LOD**
6		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		17.3	mg/kg	5.324	81.442	mg/kg	0.00814 %	✓	
7		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		129	mg/kg	4.398	501.62	mg/kg	0.0502 %	✓	
9		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10		naphthalene	601-052-00-2	202-049-5	91-20-3		480	µg/kg		0.424	mg/kg	0.0000424 %	✓	
11		acenaphthylene		205-917-1	208-96-8		0.27	mg/kg		0.239	mg/kg	0.0000239 %	✓	
12		acenaphthene		201-469-6	83-32-9		0.63	mg/kg		0.557	mg/kg	0.0000557 %	✓	
13		fluorene		201-695-5	86-73-7		0.48	mg/kg		0.424	mg/kg	0.0000424 %	✓	
14		phenanthrene		201-581-5	85-01-8		5.15	mg/kg		4.553	mg/kg	0.000455 %	✓	
15		anthracene		204-371-1	120-12-7		1.32	mg/kg		1.167	mg/kg	0.000117 %	✓	

#		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									
16		fluoranthene				8.53	mg/kg		7.542	mg/kg	0.000754 %	✓	
			205-912-4	206-44-0									
17		pyrene				7.62	mg/kg		6.737	mg/kg	0.000674 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				3.97	mg/kg		3.51	mg/kg	0.000351 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				4.24	mg/kg		3.749	mg/kg	0.000375 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				4.4	mg/kg		3.89	mg/kg	0.000389 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				2.71	mg/kg		2.396	mg/kg	0.00024 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.34	mg/kg		0.301	mg/kg	0.0000301 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				2.75	mg/kg		2.431	mg/kg	0.000243 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				5.02	mg/kg		4.439	mg/kg	0.000444 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				1.95	mg/kg		1.724	mg/kg	0.000172 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				8.22	pH		8.22	pH	8.22 pH		
				PH									
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38.9	mg/kg	1.462	50.269	mg/kg	0.00503 %	✓	
			215-160-9	1308-38-9									
										Total:	0.102 %		

Key

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

Classification of sample: WS01A-13/05/2023-1.00m

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

Sample details

Sample name:
WS01A-13/05/2023-1.00m
Moisture content:
16.3%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11.3	mg/kg	1.895	18.408	mg/kg	0.00184 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		43	mg/kg	3.929	145.27	mg/kg	0.0145 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	93	mg/kg	1.57	125.538	mg/kg	0.008 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.2	mg/kg	1.419	0.244	mg/kg	0.0000244 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		26.7	mg/kg	5.324	122.235	mg/kg	0.0122 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		123	mg/kg	4.398	465.129	mg/kg	0.0465 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		490	µg/kg		0.421	mg/kg	0.0000421 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.13	mg/kg		0.112	mg/kg	0.0000112 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.59	mg/kg		0.507	mg/kg	0.0000507 %	✓	
13	fluorene		201-695-5	86-73-7		0.45	mg/kg		0.387	mg/kg	0.0000387 %	✓	
14	phenanthrene		201-581-5	85-01-8		3.3	mg/kg		2.837	mg/kg	0.000284 %	✓	
15	anthracene		204-371-1	120-12-7		0.87	mg/kg		0.748	mg/kg	0.0000748 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		fluoranthene		205-912-4	206-44-0		5.25	mg/kg		4.514	mg/kg	0.000451 %	✓	
17		pyrene		204-927-3	129-00-0		4.68	mg/kg		4.024	mg/kg	0.000402 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.22	mg/kg		1.909	mg/kg	0.000191 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		2.41	mg/kg		2.072	mg/kg	0.000207 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.42	mg/kg		2.081	mg/kg	0.000208 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		1.52	mg/kg		1.307	mg/kg	0.000131 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.22	mg/kg		0.189	mg/kg	0.0000189 %	✓	
23		benzo[ghi]perylene		205-883-8	191-24-2		1.43	mg/kg		1.23	mg/kg	0.000123 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		2.92	mg/kg		2.511	mg/kg	0.000251 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.13	mg/kg		0.972	mg/kg	0.0000972 %	✓	
26		pH			PH		8.14	pH		8.14	pH	8.14 pH		
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
28		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
29		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
30		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
31		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.015	mg/kg		0.0129	mg/kg	0.00000129 %	✓	
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		52.5	mg/kg	1.462	65.977	mg/kg	0.0066 %	✓	
											Total:	0.0927 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00002%)

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

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 1.29e-06%)

Classification of sample: WS02-13/05/2023-0.50m

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

Sample details

Sample name:
WS02-13/05/2023-0.50m
Moisture content:
13.8%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				11 mg/kg	1.895	18.313 mg/kg	0.00183 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		62 mg/kg	3.929	214.061 mg/kg	0.0214 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	119 mg/kg	1.57	164.163 mg/kg	0.0105 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		<0.1 mg/kg	1.419	<0.142 mg/kg	<0.0000142 %		<**LOD**
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		23.8 mg/kg	5.324	111.352 mg/kg	0.0111 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		140 mg/kg	4.398	541.045 mg/kg	0.0541 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		330 µg/kg		0.29 mg/kg	0.000029 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.18 mg/kg		0.158 mg/kg	0.0000158 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.49 mg/kg		0.431 mg/kg	0.0000431 %	✓	
13	fluorene		201-695-5	86-73-7		0.38 mg/kg		0.334 mg/kg	0.0000334 %	✓	
14	phenanthrene		201-581-5	85-01-8		2.66 mg/kg		2.337 mg/kg	0.000234 %	✓	
15	anthracene		204-371-1	120-12-7		0.77 mg/kg		0.677 mg/kg	0.0000677 %	✓	

#		Determinand	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		fluoranthene	205-912-4	206-44-0		4.7	mg/kg		4.13	mg/kg	0.000413 %	✓	
17		pyrene	204-927-3	129-00-0		4.03	mg/kg		3.541	mg/kg	0.000354 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.03	mg/kg		1.784	mg/kg	0.000178 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9	2.13	mg/kg		1.872	mg/kg	0.000187 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	2.06	mg/kg		1.81	mg/kg	0.000181 %	✓	
21		indeno[123-cd]pyrene	205-893-2	193-39-5		1.07	mg/kg		0.94	mg/kg	0.000094 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.15	mg/kg		0.132	mg/kg	0.0000132 %	✓	
23		benzo[ghi]perylene	205-883-8	191-24-2		1.1	mg/kg		0.967	mg/kg	0.0000967 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	2.38	mg/kg		2.091	mg/kg	0.000209 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.93	mg/kg		0.817	mg/kg	0.0000817 %	✓	
26		pH		PH		7.54	pH		7.54	pH	7.54 pH		
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
28		benzene	601-020-00-8	200-753-7	71-43-2	<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
29		toluene	601-021-00-3	203-625-9	108-88-3	<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
30		ethylbenzene	601-023-00-4	202-849-4	100-41-4	<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
31		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		40	mg/kg	1.462	51.373	mg/kg	0.00514 %	✓	
										Total:	0.107 %		

Key

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

Classification of sample: WS04-13/05/2023-0.50m

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

Sample details

Sample name:
WS04-13/05/2023-0.50m
Moisture content:
12.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8.2 mg/kg	1.895	13.821 mg/kg	0.00138 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		64 mg/kg	3.929	223.718 mg/kg	0.0224 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	50 mg/kg	1.57	69.835 mg/kg	0.00445 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.2 mg/kg	1.419	0.252 mg/kg	0.0000252 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		21.8 mg/kg	5.324	103.265 mg/kg	0.0103 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		101 mg/kg	4.398	395.187 mg/kg	0.0395 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		<400 µg/kg		<0.4 mg/kg	<0.00004 %		<**LOD**
11	acenaphthylene		205-917-1	208-96-8		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
12	acenaphthene		201-469-6	83-32-9		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<**LOD**
13	fluorene		201-695-5	86-73-7		<0.4 mg/kg		<0.4 mg/kg	<0.00004 %		<**LOD**
14	phenanthrene		201-581-5	85-01-8		1.07 mg/kg		0.952 mg/kg	0.0000952 %	✓	
15	anthracene		204-371-1	120-12-7		<0.4 mg/kg		<0.4 mg/kg	<0.00004 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		fluoranthene				1.32	mg/kg		1.174	mg/kg	0.000117 %	✓	
			205-912-4	206-44-0									
17		pyrene				1.33	mg/kg		1.183	mg/kg	0.000118 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.88	mg/kg		0.783	mg/kg	0.0000783 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				1.15	mg/kg		1.023	mg/kg	0.000102 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.66	mg/kg		0.587	mg/kg	0.0000587 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				<0.4	mg/kg		<0.4	mg/kg	<0.00004 %		<**LOD**
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.4	mg/kg		<0.4	mg/kg	<0.00004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.51	mg/kg		0.454	mg/kg	0.0000454 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				0.9	mg/kg		0.801	mg/kg	0.0000801 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.35	mg/kg		0.311	mg/kg	0.0000311 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				7.65	pH		7.65	pH	7.65 pH		
				PH									
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
28		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
29		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
30		ethylbenzene				7	µg/kg		0.0062	mg/kg	0.000000623 %	✓	
		601-023-00-4	202-849-4	100-41-4									
31		xylene				0.013	mg/kg		0.0116	mg/kg	0.00000116 %	✓	
		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]									
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				47.6	mg/kg	1.462	61.895	mg/kg	0.00619 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0856 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00002%)

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

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

ethylbenzene: (conc.: 6.23e-07%)

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

Because of determinand:

xylene: (conc.: 1.16e-06%)

Classification of sample: WS06-13/05/2023-0.50m

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

Sample details

Sample name:
WS06-13/05/2023-0.50m
Moisture content:
23%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 23% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				10.2 mg/kg	1.895	15.711 mg/kg	0.00157 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.1 mg/kg	1.855	0.151 mg/kg	0.0000151 %	✓	
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		81 mg/kg	3.929	258.743 mg/kg	0.0259 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	335 mg/kg	1.57	427.573 mg/kg	0.0272 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		1.2 mg/kg	1.419	1.384 mg/kg	0.000138 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		17 mg/kg	5.324	73.588 mg/kg	0.00736 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		438 mg/kg	4.398	1566.091 mg/kg	0.157 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		230 µg/kg		0.187 mg/kg	0.0000187 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.16 mg/kg		0.13 mg/kg	0.000013 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.26 mg/kg		0.211 mg/kg	0.0000211 %	✓	
13	fluorene		201-695-5	86-73-7		0.25 mg/kg		0.203 mg/kg	0.0000203 %	✓	
14	phenanthrene		201-581-5	85-01-8		2.19 mg/kg		1.78 mg/kg	0.000178 %	✓	
15	anthracene		204-371-1	120-12-7		0.63 mg/kg		0.512 mg/kg	0.0000512 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		fluoranthene		205-912-4	206-44-0		3.35	mg/kg		2.724	mg/kg	0.000272 %	✓	
17		pyrene		204-927-3	129-00-0		3.1	mg/kg		2.52	mg/kg	0.000252 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.59	mg/kg		1.293	mg/kg	0.000129 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		1.7	mg/kg		1.382	mg/kg	0.000138 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.65	mg/kg		1.341	mg/kg	0.000134 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		0.95	mg/kg		0.772	mg/kg	0.0000772 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.21	mg/kg		0.171	mg/kg	0.0000171 %	✓	
23		benzo[ghi]perylene		205-883-8	191-24-2		0.96	mg/kg		0.78	mg/kg	0.000078 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.94	mg/kg		1.577	mg/kg	0.000158 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.75	mg/kg		0.61	mg/kg	0.000061 %	✓	
26		pH			PH		7.33	pH		7.33	pH	7.33 pH		
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
28		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
29		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
30		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
31		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.007	mg/kg		0.0056	mg/kg	0.000000569 %	✓	
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.8	mg/kg	1.462	44.916	mg/kg	0.00449 %	✓	
											Total:	0.225 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00013%)

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

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 5.69e-07%)

Classification of sample: WS07A-13/05/2023-1.00m

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

Sample details

Sample name:
WS07A-13/05/2023-1.00m
Moisture content:
13.7%
(dry weight correction)

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

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

lead di(acetate): (Note 1 conc.: 0.289%)

Determinands

Moisture content: 13.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				14.2	mg/kg	1.895	23.661	mg/kg	0.00237 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		71	mg/kg	3.929	245.35	mg/kg	0.0245 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	3285	mg/kg	1.57	4535.715	mg/kg	0.289 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.1	mg/kg	1.419	0.125	mg/kg	0.0000125 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		21.4	mg/kg	5.324	100.211	mg/kg	0.01 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		207	mg/kg	4.398	800.678	mg/kg	0.0801 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		380	µg/kg		0.334	mg/kg	0.0000334 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.19	mg/kg		0.167	mg/kg	0.0000167 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.49	mg/kg		0.431	mg/kg	0.0000431 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		fluorene		201-695-5	86-73-7		0.38	mg/kg		0.334	mg/kg	0.0000334 %	✓	
14		phenanthrene		201-581-5	85-01-8		4.14	mg/kg		3.641	mg/kg	0.000364 %	✓	
15		anthracene		204-371-1	120-12-7		0.98	mg/kg		0.862	mg/kg	0.0000862 %	✓	
16		fluoranthene		205-912-4	206-44-0		5.71	mg/kg		5.022	mg/kg	0.000502 %	✓	
17		pyrene		204-927-3	129-00-0		5.25	mg/kg		4.617	mg/kg	0.000462 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.49	mg/kg		2.19	mg/kg	0.000219 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		2.71	mg/kg		2.383	mg/kg	0.000238 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.63	mg/kg		2.313	mg/kg	0.000231 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		1.55	mg/kg		1.363	mg/kg	0.000136 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.23	mg/kg		0.202	mg/kg	0.0000202 %	✓	
23		benzo[ghi]perylene		205-883-8	191-24-2		1.51	mg/kg		1.328	mg/kg	0.000133 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.08	mg/kg		2.709	mg/kg	0.000271 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.2	mg/kg		1.055	mg/kg	0.000106 %	✓	
26		pH			PH		8.5	pH		8.5	pH	8.5 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		45.8	mg/kg	1.462	58.874	mg/kg	0.00589 %	✓	
											Total:	0.415 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00001%)

Classification of sample: WS08-13/05/2023-0.50m

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

Sample details

Sample name:
WS08-13/05/2023-0.50m
Moisture content:
9.4%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				9.7 mg/kg	1.895	16.798 mg/kg	0.00168 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		327 mg/kg	3.929	1174.406 mg/kg	0.117 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	144 mg/kg	1.57	206.641 mg/kg	0.0132 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.389 mg/kg	0.0000389 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		20.3 mg/kg	5.324	98.796 mg/kg	0.00988 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		113 mg/kg	4.398	454.265 mg/kg	0.0454 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		1900 µg/kg		1.737 mg/kg	0.000174 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.51 mg/kg		0.466 mg/kg	0.0000466 %	✓	
12	acenaphthene		201-469-6	83-32-9		8.54 mg/kg		7.806 mg/kg	0.000781 %	✓	
13	fluorene		201-695-5	86-73-7		6.17 mg/kg		5.64 mg/kg	0.000564 %	✓	
14	phenanthrene		201-581-5	85-01-8		45.71 mg/kg		41.782 mg/kg	0.00418 %	✓	
15	anthracene		204-371-1	120-12-7		15.78 mg/kg		14.424 mg/kg	0.00144 %	✓	

#		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									
16		fluoranthene	205-912-4	206-44-0		60.1	mg/kg		54.936	mg/kg	0.00549 %	✓	
17		pyrene	204-927-3	129-00-0		48.86	mg/kg		44.662	mg/kg	0.00447 %	✓	
18		benzo[a]anthracene	200-280-6	56-55-3		26.46	mg/kg		24.186	mg/kg	0.00242 %	✓	
19		chrysene	205-923-4	218-01-9		26.07	mg/kg		23.83	mg/kg	0.00238 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		23.72	mg/kg		21.682	mg/kg	0.00217 %	✓	
21		indeno[123-cd]pyrene	205-893-2	193-39-5		13.8	mg/kg		12.614	mg/kg	0.00126 %	✓	
22		dibenz[a,h]anthracene	200-181-8	53-70-3		2.86	mg/kg		2.614	mg/kg	0.000261 %	✓	
23		benzo[ghi]perylene	205-883-8	191-24-2		13.99	mg/kg		12.788	mg/kg	0.00128 %	✓	
24		benzo[b]fluoranthene	205-911-9	205-99-2		28.89	mg/kg		26.408	mg/kg	0.00264 %	✓	
25		benzo[k]fluoranthene	205-916-6	207-08-9		11.23	mg/kg		10.265	mg/kg	0.00103 %	✓	
26		pH		PH		8.44	pH		8.44	pH	8.44 pH		
27		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		39.8	mg/kg	1.462	53.172	mg/kg	0.00532 %	✓	
										Total:	0.224 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

Classification of sample: WS08-13/05/2023-2.50m

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

Sample details

Sample name:
WS08-13/05/2023-2.50m

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

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		8.28 pH		8.28 pH	8.28 pH		
								Total:	0%		

Key

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

Classification of sample: WS09-13/05/2023-0.50m

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

Sample details

Sample name:
WS09-13/05/2023-0.50m
Moisture content:
22.9%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 22.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				67.9	mg/kg	1.895	104.669	mg/kg	0.0105 %	✓	
2		cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3		copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		158	mg/kg	3.929	505.118	mg/kg	0.0505 %	✓	
4		lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	199	mg/kg	1.57	254.198	mg/kg	0.0162 %	✓	
5		mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.6	mg/kg	1.419	0.693	mg/kg	0.0000693 %	✓	
6		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		56.2	mg/kg	5.324	243.471	mg/kg	0.0243 %	✓	
7		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2	mg/kg	2.554	4.156	mg/kg	0.000416 %	✓	
8		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		152	mg/kg	4.398	543.926	mg/kg	0.0544 %	✓	
9		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10		naphthalene	601-052-00-2	202-049-5	91-20-3		1350	µg/kg		1.098	mg/kg	0.00011 %	✓	
11		acenaphthylene		205-917-1	208-96-8		0.97	mg/kg		0.789	mg/kg	0.0000789 %	✓	
12		acenaphthene		201-469-6	83-32-9		2.48	mg/kg		2.018	mg/kg	0.000202 %	✓	
13		fluorene		201-695-5	86-73-7		2.68	mg/kg		2.181	mg/kg	0.000218 %	✓	
14		phenanthrene		201-581-5	85-01-8		25.74	mg/kg		20.944	mg/kg	0.00209 %	✓	
15		anthracene		204-371-1	120-12-7		8.33	mg/kg		6.778	mg/kg	0.000678 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		fluoranthene		205-912-4	206-44-0		33.98	mg/kg		27.648	mg/kg	0.00276 %	✓	
17		pyrene		204-927-3	129-00-0		32.57	mg/kg		26.501	mg/kg	0.00265 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		16.59	mg/kg		13.499	mg/kg	0.00135 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		15.72	mg/kg		12.791	mg/kg	0.00128 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		16.15	mg/kg		13.141	mg/kg	0.00131 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		9.45	mg/kg		7.689	mg/kg	0.000769 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		1.65	mg/kg		1.343	mg/kg	0.000134 %	✓	
23		benzo[ghi]perylene		205-883-8	191-24-2		9.81	mg/kg		7.982	mg/kg	0.000798 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		17.77	mg/kg		14.459	mg/kg	0.00145 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		6.91	mg/kg		5.622	mg/kg	0.000562 %	✓	
26		pH			PH		8.33	pH		8.33	pH	8.33 pH		
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
28		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
29		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
30		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
31		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		68.7	mg/kg	1.462	81.7	mg/kg	0.00817 %	✓	
											Total:	0.181 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00006%)

Classification of sample: WS10-13/05/2023-1.20m

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

Sample details

Sample name:
WS10-13/05/2023-1.20m
Moisture content:
35.7%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 35.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				14.1 mg/kg	1.895	19.685 mg/kg	0.00197 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1 mg/kg	1.855	<0.185 mg/kg	<0.0000185 %		<LOD
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		47 mg/kg	3.929	136.084 mg/kg	0.0136 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	51 mg/kg	1.57	59.001 mg/kg	0.00376 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.3 mg/kg	1.419	0.314 mg/kg	0.0000314 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		31.8 mg/kg	5.324	124.77 mg/kg	0.0125 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	1.882 mg/kg	0.000188 %	✓	
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		57 mg/kg	4.398	184.732 mg/kg	0.0185 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
10	naphthalene	601-052-00-2	202-049-5	91-20-3		<40 µg/kg		<0.04 mg/kg	<0.000004 %		<LOD
11	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
12	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
13	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
14	phenanthrene		201-581-5	85-01-8		0.26 mg/kg		0.192 mg/kg	0.0000192 %	✓	
15	anthracene		204-371-1	120-12-7		0.09 mg/kg		0.0663 mg/kg	0.00000663 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		fluoranthene		205-912-4	206-44-0		0.39	mg/kg		0.287	mg/kg	0.0000287 %	✓	
17		pyrene		204-927-3	129-00-0		0.42	mg/kg		0.31	mg/kg	0.000031 %	✓	
18		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.2	mg/kg		0.147	mg/kg	0.0000147 %	✓	
19		chrysene	601-048-00-0	205-923-4	218-01-9		0.2	mg/kg		0.147	mg/kg	0.0000147 %	✓	
20		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.19	mg/kg		0.14	mg/kg	0.000014 %	✓	
21		indeno[123-cd]pyrene		205-893-2	193-39-5		0.11	mg/kg		0.0811	mg/kg	0.00000811 %	✓	
22		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
23		benzo[ghi]perylene		205-883-8	191-24-2		0.12	mg/kg		0.0884	mg/kg	0.00000884 %	✓	
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.2	mg/kg		0.147	mg/kg	0.0000147 %	✓	
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.08	mg/kg		0.059	mg/kg	0.0000059 %	✓	
26		pH			PH		7.85	pH		7.85	pH	7.85 pH		
27		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
28		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
29		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
30		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
31		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
32		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		56.6	mg/kg	1.462	60.961	mg/kg	0.0061 %	✓	
											Total:	0.0569 %		

Key

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00003%)

Classification of sample: WS11-13/05/2023-1.50m

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

Sample details

Sample name:
WS11-13/05/2023-1.50m
Moisture content:
27.7%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 27.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				13.2	mg/kg	1.895	19.583	mg/kg	0.00196 %	✓	
2	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.1	mg/kg	1.855	<0.185	mg/kg	<0.0000185 %		<**LOD**
3	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		25	mg/kg	3.929	76.92	mg/kg	0.00769 %	✓	
4	lead { lead di(acetate) }	082-005-00-8	206-104-4	301-04-2	1	16	mg/kg	1.57	19.67	mg/kg	0.00125 %	✓	
5	mercury { mercury difulminate }	080-005-00-2	211-057-8	628-86-4		0.1	mg/kg	1.419	0.111	mg/kg	0.0000111 %	✓	
6	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		33.8	mg/kg	5.324	140.925	mg/kg	0.0141 %	✓	
7	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
8	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		56	mg/kg	4.398	192.861	mg/kg	0.0193 %	✓	
9	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
10	naphthalene	601-052-00-2	202-049-5	91-20-3		330	µg/kg		0.258	mg/kg	0.0000258 %	✓	
11	acenaphthylene		205-917-1	208-96-8		0.05	mg/kg		0.0392	mg/kg	0.00000392 %	✓	
12	acenaphthene		201-469-6	83-32-9		0.38	mg/kg		0.298	mg/kg	0.0000298 %	✓	
13	fluorene		201-695-5	86-73-7		0.28	mg/kg		0.219	mg/kg	0.0000219 %	✓	
14	phenanthrene		201-581-5	85-01-8		1.92	mg/kg		1.504	mg/kg	0.00015 %	✓	
15	anthracene		204-371-1	120-12-7		0.52	mg/kg		0.407	mg/kg	0.0000407 %	✓	

#		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									
16		fluoranthene				2.67	mg/kg		2.091	mg/kg	0.000209 %	✓	
			205-912-4	206-44-0									
17		pyrene				2.43	mg/kg		1.903	mg/kg	0.00019 %	✓	
			204-927-3	129-00-0									
18		benzo[a]anthracene				1.19	mg/kg		0.932	mg/kg	0.0000932 %	✓	
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				1.28	mg/kg		1.002	mg/kg	0.0001 %	✓	
		601-048-00-0	205-923-4	218-01-9									
20		benzo[a]pyrene; benzo[def]chrysene				1.24	mg/kg		0.971	mg/kg	0.0000971 %	✓	
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				0.75	mg/kg		0.587	mg/kg	0.0000587 %	✓	
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.14	mg/kg		0.11	mg/kg	0.000011 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				0.74	mg/kg		0.579	mg/kg	0.0000579 %	✓	
			205-883-8	191-24-2									
24		benzo[b]fluoranthene				1.44	mg/kg		1.128	mg/kg	0.000113 %	✓	
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.56	mg/kg		0.439	mg/kg	0.0000439 %	✓	
		601-036-00-5	205-916-6	207-08-9									
26		pH				7.88	pH		7.88	pH	7.88 pH		
				PH									
27		dichlorodifluoromethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
28		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
29		chloromethane; methyl chloride				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-001-00-7	200-817-4	74-87-3									
30		bromomethane; methylbromide				<1	µg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
31		chloroethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
32		trichlorofluoromethane				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
33		1,1-dichloroethylene; vinylidene chloride				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
34		dichloromethane; methylene chloride				<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-004-00-3	200-838-9	75-09-2									
35		1,1-dichloroethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-011-00-1	200-863-5	75-34-3									
36		2,2-dichloropropane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
37		bromochloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
38		chloroform; trichloromethane				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
39		1,1,1-trichloroethane; methyl chloroform				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
40		1,1-dichloropropene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
41		carbon tetrachloride; tetrachloromethane				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
42		1,1-dichloroethane and 1,2-dichloroethane (combined)				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
43		trichloroethylene; trichloroethene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
44		1,2-dichloropropane; propylene dichloride				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
45		dibromomethane	602-003-00-8	200-824-2	74-95-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
46		bromodichloromethane		200-856-7	75-27-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
47		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
48		trans-1,3-dichloropropene		431-460-4	10061-02-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
49		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
50		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		10	µg/kg		0.0078	mg/kg	0.000000783 %	✓	
51		1,3-dichloropropane		205-531-3	142-28-9		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
52		dibromochloromethane		204-704-0	124-48-1		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
53		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
54		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
55		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
56		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
57		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
58		bromobenzene	602-060-00-9	203-623-8	108-86-1		<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
59		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
60		tert-butylbenzene		202-632-4	98-06-6		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
61		sec-butylbenzene		205-227-0	135-98-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
62		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
63		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
64		n-butylbenzene		203-209-7	104-51-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
65		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
66		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
67		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
68		hexachlorobutadiene		201-765-5	87-68-3		<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
69		1,2,3-trichlorobenzene		201-757-1	87-61-6		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
70		benzene	601-020-00-8	200-753-7	71-43-2		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
71		toluene	601-021-00-3	203-625-9	108-88-3		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
72		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
73		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,2,4-trimethylbenzene				<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		601-043-00-3	202-436-9	95-63-6									
75	●	4-isopropyltoluene				<4	µg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			202-796-7	99-87-6									
76		vinyl chloride; chloroethylene				<2	µg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
77		styrene				<3	µg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
78		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
79	●	2-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
80		2,4-dichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
81		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
82		2,4,5-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
83		2,4,6-trichlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
84		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
85		4-nitrophenol; p-nitrophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
86		pentachlorophenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
87		phenol				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
88	●	2-chloronaphthalene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
89	●	2-methyl naphthalene				23	µg/kg		0.018	mg/kg	0.0000018 %	✓	
			202-078-3	91-57-6									
90		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
91		BBP; benzyl butyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
92		dibutyl phthalate; DBP				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
93	●	di-n-octyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
94	●	diethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
95	●	dimethyl phthalate				<100	µg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
96		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
97		2,6-dinitrotoluene				<10	µg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
98		4-bromophenylphenylether		202-952-4	101-55-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
99		4-chloroaniline	612-137-00-9	203-401-0	106-47-8		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
100		4-chlorophenylphenylether		230-281-7	7005-72-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
101		azobenzene	611-001-00-6	203-102-5	103-33-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
102		bis(2-chloroethoxy)methane		203-920-2	111-91-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
103		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
104		carbazole		201-696-0	86-74-8		50	µg/kg		0.0392	mg/kg	0.00000392 %	✓	
105		dibenzofuran		205-071-3	132-64-9		31	µg/kg		0.0243	mg/kg	0.00000243 %	✓	
106		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
107		hexachlorocyclopentadiene	602-078-00-7	201-029-3	77-47-4		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
108		hexachloroethane		200-666-4	67-72-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
109		3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
110		nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
111		nitrobenzene	609-003-00-7	202-716-0	98-95-3		<10	µg/kg		<0.01	mg/kg	<0.000001 %		<LOD
112		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<LOD
113		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
114		cumene; [1] propylbenzene [2]	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<7	µg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
115		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<6	µg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
116		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<20	µg/kg		<0.02	mg/kg	<0.000002 %		<LOD
117		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]	612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<30	µg/kg		<0.03	mg/kg	<0.000003 %		<LOD
118		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		58.1	mg/kg	1.462	66.497	mg/kg	0.00665 %	✓	
											Total:	0.0527 %		

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

Supplementary Hazardous Property Information

HP 1: Explosive "waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included"

Force this Hazardous property to non hazardous because No free phase contamination encountered

Hazard Statements hit:

Unst. Expl.; H200 "Unstable explosives"

Because of determinand:

mercury difulminate: (compound conc.: 0.00001%)

Appendix A: Classifier defined and non GB MCL determinands

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

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

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

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

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pH (CAS Number: PH)
Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)
Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

dichlorodifluoromethane (EC Number: 200-893-9, CAS Number: 75-71-8)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3; H412 , Ozone 1; H420 , Press. Gas; H280

trichlorofluoromethane (EC Number: 200-892-3, CAS Number: 75-69-4)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

2,2-dichloropropane (EC Number: 209-832-0, CAS Number: 594-20-7)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

bromochloromethane (EC Number: 200-826-3, CAS Number: 74-97-5)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

1,1-dichloroethane and 1,2-dichloroethane (combined) (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)
Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

bromodichloromethane (EC Number: 200-856-7, CAS Number: 75-27-4)
Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

trans-1,3-dichloropropene (EC Number: 431-460-4, CAS Number: 10061-02-6)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

1,3-dichloropropane (EC Number: 205-531-3, CAS Number: 142-28-9)
Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

- **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

- **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

- **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

- **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

- **n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; 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

- **4-isopropyltoluene** (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Chronic 2; H411

- **2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

2-methyl naphthalene (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

di-n-octyl phthalate (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

diethyl phthalate (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

dimethyl phthalate (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

4-bromophenylphenylether (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

4-chlorophenylphenylether (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

bis(2-chloroethoxy)methane (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

- **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

- **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic acid and its salts with the exception of those specified elsewhere in this Annex}

Worst case scenario

cadmium {cadmium sulfate}

Worst case scenario

copper {copper sulphate pentahydrate}

Worst case scenario

lead {lead di(acetate)}

Worst case scenario

mercury {mercury difulminate}

Worst case scenario

nickel {nickel diiodide}

Worst case scenario

selenium {nickel selenate}

Worst case scenario

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

Worst case scenario

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

Worst case scenario

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

Worst case scenario

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

Lowest conversion factor

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2023.171.5623.10363 (20 Jun 2023)
HazWasteOnline Database: 2023.171.5623.10363 (20 Jun 2023)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021

APPENDIX 13 - Relevant Legislative Background

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

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

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- LCRM – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;

APPENDIX 14 - Limitations

Limitations

This report (Report) forms part of the Services and if applicable Additional Services undertaken by Groundtech Consulting Ltd pursuant to a written contract (Agreement) which contains detailed provisions including express limitations of the liability of Groundtech Consulting Ltd.

This Report was prepared using reasonable skill and care as stated in the Agreement for the purpose including intended end use stated by the Client (Purpose) and the liability of Groundtech Consulting Ltd in respect of the form and content of this Report is no greater than its liability under the Agreement. All records, measurements notes, or any other data (Data) obtained by or for the benefit of the Consultant were obtained at a specific point in time and it may not be assumed by the Client or any person relying on this Report that the Data will remain unaffected by the passage of time, the seasons, weather conditions, changes in the water table or the carrying out and completion of works at the Site.

Unless otherwise agreed this Report has been prepared exclusively for the use and reliance of the Client and may not be relied upon, by any other party except as provided for in the Agreement. A third party who relies on this Report, does so at their own and sole risk and Groundtech Consulting Ltd has no liability to such parties.

Groundtech Consulting Ltd that this Report is to be used for the Purpose. The Purpose was instrumental in determining the scope and of the Services provided. If the Purpose should change, the Client may not be able to rely on the Report without the separate agreement of Groundtech Consulting Ltd.

Since the Report was written, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change (see below) and should be investigated if there is any significant delay in acting on the findings of this Report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions in this Report should not be relied upon in the future without written confirmation from Groundtech Consulting Ltd that it is safe to do so.

The observations and conclusions outlined in this Report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting Ltd.

Groundtech Consulting Ltd is not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The Report is based upon Groundtech Consulting Ltd's observations of existing physical conditions at the Site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the Client on the history and usage of the Site. The findings and recommendations contained in this Report are based in part upon information provided by third parties, and Groundtech Consulting Ltd have relied upon such information assuming it to be correct.

Groundtech Consulting Ltd accepts no responsibility for errors or inaccuracies in third party information presented in this Report. Groundtech Consulting Ltd was not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services or Additional Services. Groundtech Consulting Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting Ltd and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions may also vary due to the ground's heterogeneous properties and because investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this Report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. If so stipulated in the Agreement, geo-environmental testing was carried out for a limited number of parameters based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

Any groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and groundwater levels may occur at other times of the year which are higher than were recorded during this investigation.

Any site drawings provided in this Report are preliminary and used to present the general relative locations of features on, and surrounding, the Site.

