

GROUNDTECH
CONSULTING

MIDDLETON ROAD, CRUMPSALL

GEO-ENVIRONMENTAL APPRAISAL

WAIN HOMES

JULY 2026

Document Control Form	
PROJECT	*MIDDLETON ROAD, CRUMPSALL*
REPORT NAME	*GEO-ENVIRONMENTAL APPRAISAL*
REPORT REFERENCE	*GRO-26222-6701*
STATUS	*FINAL*
ISSUE DATE	*24 JULY 2026*
REVISION	
CLIENT	*WAIN HOMES*
CLIENT CONTACT	*ANDY DAINTON*
For and Behalf of Groundtech Consulting	
SIGNATURE	
AUTHOR	Rebecca Rowlinson BSc (Hons) FGS
SIGNATURE	
CHECKED	Luke Harrison BSc (Hons) FGS
SIGNATURE	
REVIEWED	Jonny Sander BSc (Hons) MSc C.WEM CSci

SUMMARY

Site Details	
Site Location	*The site is located circa 3 miles north of Manchester City Centre and is approximately centred on National Grid Reference 383408, 403025.*
Site Area	*The site is generally rectangular in shape and circa 3.02 hectares in area and occupied by a grass surfaced field. The topography of the site is generally level, with a light downward slope of circa 1.0m from south to north. There are areas of hummocky ground in the centre and south of the site.* *The east of the site has been used to store construction materials and there is Made Ground present here, there are no structures on site.*
Ground Model	
Made Ground Soils	*The site was entirely surfaced by Topsoil to a maximum depth of between 0.2m and 0.35m begl.* *Made Ground/reworked ground has been encountered across the site in all exploratory hole locations apart from WS09, WS11, WS12, TP04 and TP08 to a maximum depth of between 0.8m and 2.9m begl and comprised both granular and cohesive soils with minor constituents of brick, shale and sandstone.*
Natural Soils	*The natural strata encountered generally confirmed the published geological records of Glacial Till and the previous Ground Investigation and comprised both firm gravelly occasionally sandy Clay and loose to medium dense silty occasionally gravelly Sand with minor constituents of Sandstone and Mudstone.*
Bedrock	*Bedrock was not encountered during the Ground Investigation.*
Groundwater	*No groundwater was encountered during the Ground Investigation.*
Ground Engineering Assessment	
Foundations	*The most suitable foundations for the proposed development are considered to be vibro stone columns or piled foundations.* *The use of shallow strip foundations is not considered to be suitable for the proposed development due to the depth of Made Ground encountered and low SPT N values recorded in the shallow Sand and Clay deposits.*
Highways	*CBR values of less than 3% are likely to be achieved in undisturbed natural cohesive soils for pavement design purposes, unless proven otherwise by in-situ testing at sub-base level by a specialist geotechnical engineer.* *Untreated made ground should be assumed to have a CBR value of <2.5%, unless proven otherwise.*
SuDS	*Poor infiltration rates were observed in the soil percolation tests (SuDS01 and SuDS02) and SuDS drainage is not considered to be suitable for the proposed development.*
Constraints	*The main limitation in relation to the site is the variable depth of reworked Made Ground up to a maximum depth of 2.9m begl which may limit the feasibility of shallow foundations to be used.*

	Low SPT values of between 1 and 9 have been recorded across the site in the windowless sample boreholes to depths of between 3.0m and 4.0m in both the Clay and Sand deposits. Loose Sand and soft Clay are not considered to be suitable founding stratum and foundations will need to be deepened to found in the medium dense and firm Clay deposits below. *Both cohesive and granular natural deposits have been encountered across the site which may lead to differential settlement. Foundations will require to be reinforced and/or deepened to found in one singular strata.*
GQRA and Revised (PL) Assessment	
Human Health	*Elevated concentrations of heavy metals were recorded in the natural Topsoil. Therefore, the topsoil is not considered to be suitable for reuse. Asbestos fibres were identified in one Made Ground topsoil sampleobtained from exploratory location SuDS02 and is also not suitable for reuse. Elevated concentrations of PAHs were recorded in one sample of cohesive Made Ground in TP06 at 0.5m begl.* *The risk to Human Health is considered to be Moderate to Low.*
Controlled Waters	*No mobile contamination has been encountered during the Ground Investigation and the risk to controlled waters is considered to be Low.*
Permanent Ground Gas	*Interim gas monitoring results suggest a CS1 risk rating is applicable for the proposed development and gas protection measures are not considered necessary at this stage. This will be confirmed upon completion of the monitoring programme.* *The site in not in an area where radon protective measures are required in foundations.*
Final Appraisal	

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

- *Completion of gas monitoring programme*
- *Issue gas assessment*
- *Tree survey by qualified arboriculturist*
- *Detailed foundation design*
- *Confirmation of recommendations made in this appraisal with regulators*

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Project Objectives 1
1.2 Proposed Development 1
1.3 Limitations 2
2.0 SITE SETTING 3
2.1 Location 3
2.2 Site Description 3
3.0 REVIEW OF PREVIOUS REPORTS 4
3.1 Introduction 4
3.2 Site History 4
3.3 Geology and Hydrogeology 4
3.4 Hydrology 4
3.5 Preliminary Conceptual Site Model 4
3.6 Scope of Works 5
3.7 Ground Model 5
3.8 Geo-Environmental Testing 6
3.9 Gas Monitoring 6
3.10 Remedial Strategy 6
3.11 Geotechnical Summary 7
4.0 SCOPE OF INVESTIGATION AND RATIONALE 8
4.1 Project Objectives 8
4.2 Scope of Works 8
4.3 Soil Sampling 9
4.4 Geo-Environmental Testing 9
4.5 Gas and Groundwater Monitoring 10
5.0 GROUND MODEL 11
5.1 Made Ground 11
5.2 Natural Ground 12
5.3 Bedrock 12
5.4 Groundwater 12
5.5 Watching Brief 12
5.6 Excavation Stability 12
5.7 Excavation Progress 12
6.0 GROUND ENGINEERING 13
6.1 Geotechnical Testing Results 13
6.2 Assessment Background 13
6.3 Geotechnical Parameters 14
6.4 Preliminary Foundation Design 14
6.5 Building Near Trees 16
6.6 Floor Slabs 16
6.7 Construction 17
6.8 Concrete Classification 17
6.9 Highway Design 18
6.10 Sustainable Urban Drainage System (SuDS) 18
7.0 LAND QUALITY 19

7.1 Geo-Environmental Testing Results - Soils 19
7.2 Generic Quantitative Risk Assessment - Soils 21
7.3 Permanent Ground Gases 22
7.4 Revised Pollution Linkage Assessment 23
7.5 Outline Remedial Strategy 29
7.6 Asbestos in Soils 30
7.7 Health and Safety - Construction and Ground Workers 30
7.8 Waste Classification by Assessment 31
7.9 Waste Acceptance Criteria (WAC) Results 32

8.0 FINAL APPRAISAL 33

8.1 Land Quality 33
8.2 Ground Engineering 33
8.3 Required Further Work 34

9.0 RELEVANT INDUSTRY REFERENCES 35

APPENDIX 1 - Plans
APPENDIX 2 - Site Photographs
APPENDIX 3 – Exploratory Hole Logs
APPENDIX 4 – Geo-Environmental Testing Results
APPENDIX 5 – Geotechnical Testing Results
APPENDIX 6 – Interim Ground Gas Monitoring Results
APPENDIX 7 – Generalised Ground Model
APPENDIX 8 – Soil Percolation Test Results
APPENDIX 9 – Generic Screening Values (Residential with Plant Uptake)
APPENDIX 10 – CIRIA Risk Assessment Methodology
APPENDIX 11 – JIWG Receptor Decision Tool
APPENDIX 12 – Waste Classification Assessment
APPENDIX 13 - Contaminated Land Legislative Background
APPENDIX 14 - Limitations

Plans		
Plan Reference	*Revision*	*Title*
GRO-26222-P01	-	*Project Location Plan*
GRO-26222-P02	-	*Exploratory Hole Location Plan*
GRO-26222-P03	-	*Generalised Ground Model*
GRO-26222-P04	-	*Topsoil Characterisation Plan*
GRO-26222-P05	-	*Revised Illustrative Conceptual Site Model (CSM)*

1.0 INTRODUCTION

1.1 Project Objectives

Groundtech Consulting Limited have been instructed by Wain Homes to undertake a Geo-Environmental Appraisal for a site at Middleton Road in Crumpsall, Manchester (M8 4JZ).

A previous Phase 1 Contaminated Land Risk Assessment has been completed by Brian Clancy Higby Partnership in February 2026 and Phase II Geo-Environmental Investigation Report and Phase III Remedial Strategy Report has been completed by CCG in January 2020 and November 2020 respectively. A summary of the relevant information is provided in *Section 3.0* of this appraisal.

A main investigation was undertaken in accordance with BS 5930:2015, BS 10175:2017, BS 8576:2013 and Eurocode 7 to revise the CSM and quantify the level of risk identified in the PRA. The Appraisal has been prepared in accordance with current UK Legislation and to discharge Land Quality pre-commencement planning conditions.

The report has been undertaken to fulfil the requirements of a risk assessment in accordance with current LCRM risk assessment guidance.

1.2 Proposed Development

The proposed development is Phase 3 of a wider residential development comprising the construction of 50 No. detached and semi-detached dwellings with associated access roads, driveways and private gardens.



Proposed Development

1.3 Limitations

This Geo-Environmental Appraisal is based on information obtained from a number of sources, and the information is assumed to be correct.

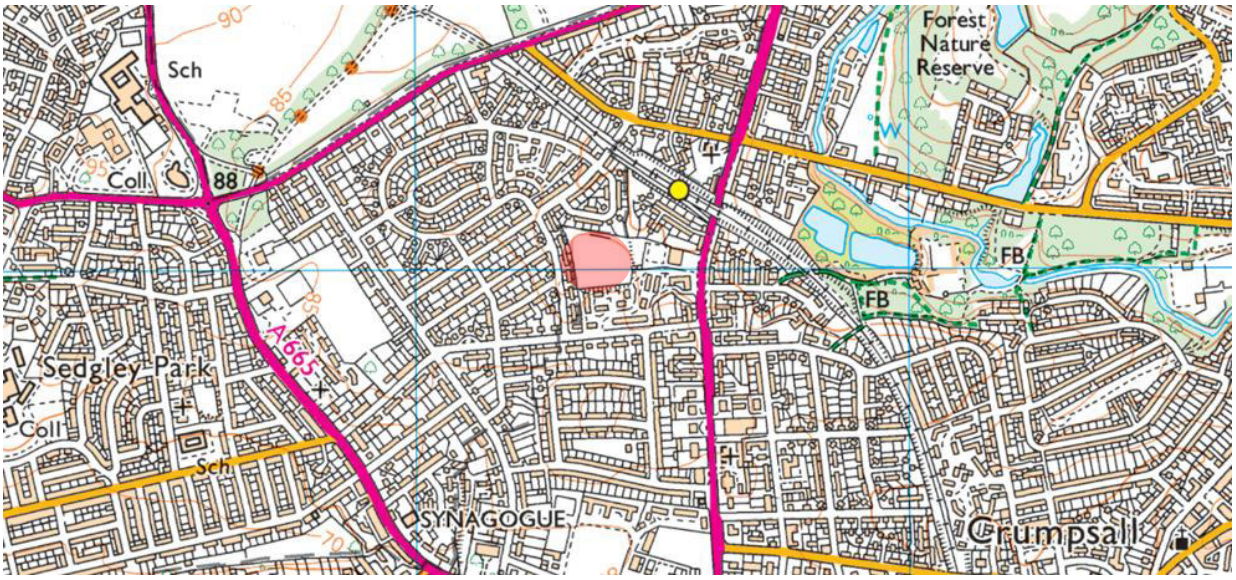
Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

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 3 miles north of Manchester City Centre, as shown on the Project Location Plan *GRO-26222-P01*. The site is approximately centred on National Grid Reference 383408, 403025.



Project Location

Access to the site is gained off Dapple Drive to the east of the site.

2.2 Site Description

The site is generally rectangular in shape and circa 1.2 hectares in area. The topography of the site is generally level, with a light downward slope by circa 1.0m from south to north. There are areas of hummocky ground in the centre and south of the site.

Site Features
The site is currently occupied by a grass surfaced field. The east of the site has been used to store construction materials and there is Made Ground present at surface, no structures were noted on site.

Site Boundaries and Surrounding Area
The north, west and south of the site are bounded by hedgerows and semi mature and mature trees. The east of the site is unbounded.

The site is surrounded by following features/land uses:

- *North* - *Residential dwellings*
- *East* - *Phase 1 and 2 of the proposed development*
- *South* - *The south of the site is mainly grassy field with trees at the boundary*
- *West* - *Residential dwellings*

Site photographs are presented in *Appendix 2*.

3.0 REVIEW OF PREVIOUS REPORTS

3.1 Introduction

The reports outlined below have previously been produced for the wider site area, inclusive of Phase 1 and Phase 2 of the proposed development. The relevant information relating to Phase 3 of the development is summarised below.

- *Phase 1 Contaminated Land Risk Assessment Report produced by Brian Clancy Higby Partnership referenced 1701-6450 and dated 3rd February 2017.*
- *Phase II Geo-Environmental Investigation Report produced by CC Geotechnical Limited referenced CCG-C-19-11308 Rev 1 and dated January 2020.*
- *Phase III Remediation Strategy Report produced by CC Geotechincal Limited referenced CCG-C-20-11980 and dated November 2020.*

3.2 Site History

Earliest historical maps from 1848 indicate the site was undeveloped at this time and comprised an open field. OS Maps from 1909 show a pond encroaching onto the south of the site. The remainder of the site was undeveloped. The site forms part of the Tramways Athletic Ground from 1922, with the centre of site being occupied by a football pitch. The pitch is indicated to have been raised. OS Maps from 1952 show the extension of the football ground, with a downward slope indicated on the eastern boundary of the site. The football pitch is no longer present on site by 1952.

3.3 Geology and Hydrogeology

The superficial deposits indicated to underly the site is Glacial Till which characteristically comprises Clay, with Sand and Gravel and is classified as a Secondary Undifferentiated Aquifer.

The bedrock deposits indicated to underly the site is the Chester Formation which characteristically comprises Sandstone and is classified as a Principal Aquifer.

3.4 Hydrology

The nearest surface water feature is the River Irk c.500m east of the site.

The site is located in Flood Zone 1 (low risk).

3.5 Preliminary Conceptual Site Model

The following risks were identified by Brian Clancy Higby Partnership:

Receptor	Risk	Discussion
Site End Users from Contaminated Soils	*Moderate*	*Made Ground is anticipated to be present beneath the site which could be contaminated with a range of CoC including heavy metals, PAHs, speciated hydrocarbons and asbestos.*
Site End Users from Inhalation of Vapours	*Moderate*	*Maps indicate that the site has been built up and dependant on the nature of the material used for the upfill vapours may be present.*

Receptor	Risk	Discussion
Site End Users from Inhalation of Gas	*Moderate to Low*	*Sites previous uses do not pose a significant risk from ground gases and the site lies in an area where radon protective measures are not required.*
Controlled Waters	*Low*	*Significant distance is present to nearest surface water feature and groundwater is not considered to be a sensitive resource.*

3.6 Scope of Works

The following scope of works was completed by CC Geotechnical in November 2019:

- *3 No cable percussive boreholes (BH2 to BH4) were drilled to a maximum depth of between 10.0m and 15.0m begl.*
- *9 No trial pits (TP2 to TP10) were excavated to a maximum depth of between 3.0m and 4.0m begl.*
- *8 No DCP (CBR7 to CBR14) were undertaken to provide a CBR value.*

3.7 Ground Model

Made Ground
The site was entirely surfaced by grass overlying Topsoil to a maximum depth of between 0.2m and 0.5m begl.

Made Ground was encountered beneath the surfacing population to a maximum depth of between 2.1m and 5.0m begl in BH2 in the south east of the site. The Made Ground comprised of reworked sandy Clay and Silt and slightly gravelly Sand with minor constituents of sandstone, broken brick, coal and ash.

The Made Ground was not fully penetrated in TP2, TP3, TP6, TP7, TP9 and TP10.

Possible reworked ground was encountered in BH3, TP4 and TP5 from depths of between 0.4m and 3.4m to depths of between 3.0m and 5.1m begl and comprised brown slightly gravelly silty Clay, reddish brown slightly gravelly clayey Silt and brown slightly gravelly silty fine to medium Sand with minor constituents of sandstone.

Superficial Deposits
The superficial deposits encountered beneath the site comprised of medium dense to dense occasionally gravelly silty fine to medium Sand with minor constituents of Sandstone from depths of between 2.1m and 5.0m begl to depths of between 3.0m and 10.0m begl.

Bedrock
No bedrock was encountered during the Ground Investigation.

Groundwater
Perched groundwater seepage was recorded in BH4 at 3.45m begl, TP5 at 1.85m begl and TP10 at 2.5m begl in the granular Made Ground deposits.

Groundwater seepages were encountered in TP8 at 4.0m begl, BH4 at 4.76m begl and BH4 at 12.4m begl.

3.8 Geo-Environmental Testing

Nine samples of Made Ground/reworked ground (TP1 to TP10) were tested for a suite of heavy metals, PAHs and total petroleum hydrocarbons (TPHs). The soil samples were compared to residential with plant uptake screening values.

No elevated concentrations of any CoC were recorded in any of the nine samples tested. The majority of PAHs and TPHs were recorded below the laboratory limit of detection and all leavy metals were recorded at low concentrations and were still significantly below the relevant screening values.

TP4 at 0.8m and TP7 at 0.6m were also scheduled for WAC analysis which concluded that the material would be accepted at an Inert waste landfill.

No asbestos was detected in any of the nine samples tested.

3.9 Gas Monitoring

Two monitoring wells were installed on site during the Ground Investigation by CC Geotechnical in BH2 and BH4.

Preliminary monitoring results from the first two visits recorded no concentrations of methane (CH_4) were recorded in the standpipes. Detectable levels of carbon dioxide (CO_2) were recorded in the standpipes, up to a maximum level of 5.1%v/v with associated depleted oxygen concentrations of minimum 7.9%v/v.

No flow rates were recorded during the monitoring.

Due to carbon dioxide concentrations of above 5%v/v being recorded in BH2 during the monitoring period, the site was classified as CS2.

A full reinforced gas proof membrane installed to BS 8485:2015 and validated to CIRIA 735, and passively vented underfloor sub-space was recommended.

Additional gas monitoring has been undertaken by Groundtech to confirm the ground gas risk at the site. During the previous investigation by CC Geotechnicalonly two wells were installed within the Phase 3 development area.

3.10 Remedial Strategy

The following recommendations werepresented in the Phase III Remediation Strategy by CC Geotechnical:

- *CS2 gas protection membrane installed. For Type A buildings as is proposed in the development, BS 8485:2015 requires a protective regime giving a score of 3.5 or greater.*
- *Installation of PE water pipes which are to be laid in a remediated alignment comprising of clean granular fill extending to 600mm + pipe diameter and to 300mm below pipe underside.*
- *Record of any previously unidentified contamination.*
- *Installation of 600mm cover system in soft landscaping areas with a minimum of 200mm Topsoil.*

3.11 Geotechnical Summary

The most suitable foundations for the proposed development were considered to be either reinforced strips on ground improved by VSCs or piles due to the depth of Made Ground encountered.

CBR values of between 1% and 6% were recorded by DCP testing, completed during the Ground Investigation.

A worst-case Design Sulphate Class of DS-1 and an Aggressive Chemical Environment for Concrete (ACEC) class of AC-1s was recommended.

4.0 SCOPE OF INVESTIGATION AND RATIONALE

4.1 Project Objectives

The aim of the fieldwork was to:

Determine the stratification beneath the site.
Maintain watching brief for visual and olfactory evidence of contamination.
Obtain samples using methodology in line with 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 if targeted supplementary investigation in areas of concern is required and for remedial design.
Install monitoring standpipes for gas and groundwater level 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 Monday 8th and Friday 12th June 2026:

- *8 No. Trial Pits (TP01 to TP08) were excavated to a maximum depth of between 2.5m and 4.5m begl using a JCB 3CX.*
- *3 No. Cable Percussive boreholes (BH01 to BH03) were drilled to 1maximum depths of between 16.00m and 16.45m begl.*
- *12 No. Windowless sample boreholes (WS01 to WS12) were drilled to a depth of 4.00m begl.*
- *2 No. Soil Percolation Tests (SuDS01 and SuDS02) were excavated to 2.1m and 3.0m begl.*

The exploratory hole locations are presented on Groundtech Plan *GRO-26222-P02* 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
BH01 to BH03, WS01 to WS12 and TP01 to TP08	*Obtain better site coverage during additional investigation*
SuDS01 and SuDS02	*Assess suitability of SuDS drainage*

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'.*

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	*75*
Disturbed Sample	*130*
Bulk Sample	*23*
Undisturbed U100 Sample	*7*

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed 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 during the Ground Investigation.

Contaminant of Concern (CoC)	Matrix	Number
Arsenic, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, selenium, zinc and pH.	*Soil*	*20*
TPH CWG	*Soil*	*2*
Speciated PAH16	*Soil*	*20*
Asbestos Screening	*Soil*	*20*
Asbestos Identification	*Soil*	*1*

The Geo-Environmental Laboratory Testing Results are presented in *Appendix 4*.

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	*Water Content*	*6*
Part 2	*Plasticity Index Analysis*	*6*
Part 3	*pH Value*	*9*
Part 3	*Water Soluble Sulphate Content*	*9*

Part 7	*Determination of Undrained Shear Strength in Triaxial Compression*	*3*

The Geotechnical Laboratory Testing Results are presented in *Appendix 5*.

4.5 Gas and Groundwater Monitoring

Gas and groundwater monitoring installations were constructed in the boreholes. The standpipes consisted of 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	Response Zone (m bgl)	Targeted Strata	Reason
WS02	*4.00m*	*1.00 – 4.00*	*Natural Sand*	*Ground Gas*
WS05	*4.00m*	*1.00 – 4.00*	*Made Ground and Sand*	*Ground Gas*
WS07	*4.00m*	*1.00 – 4.00*	*Natural Sand*	*Ground Gas*
WS09	*4.00m*	*1.00 – 4.00*	*Natural Sand*	*Ground Gas*
WS12	*4.00m*	*1.00 – 4.00*	*Natural Sand*	*Ground Gas*

Permanent gas and flow rate monitoring was carried out using 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 and ground surface 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.

Permanent gas and groundwater monitoring results are presented in *Appendix 6*.

5.0 GROUND MODEL

5.1 Made Ground

Surfacing

The site was entirely surfaced by soft landscaping. Made Ground clayey sandy Topsoil was encountered in WS01 to WS04, WS06, WS08, WS10, BH02, BH03, TP01 to TP04, TP06 to TP08 and SuDS02 to a maximum depth of between 0.2m and 0.35m begl.

Natural dark brown sandy clayey Topsoil was encountered in WS09, WS11 and WS12 from ground level to a maximum depth of between 0.2m and 0.3m begl.

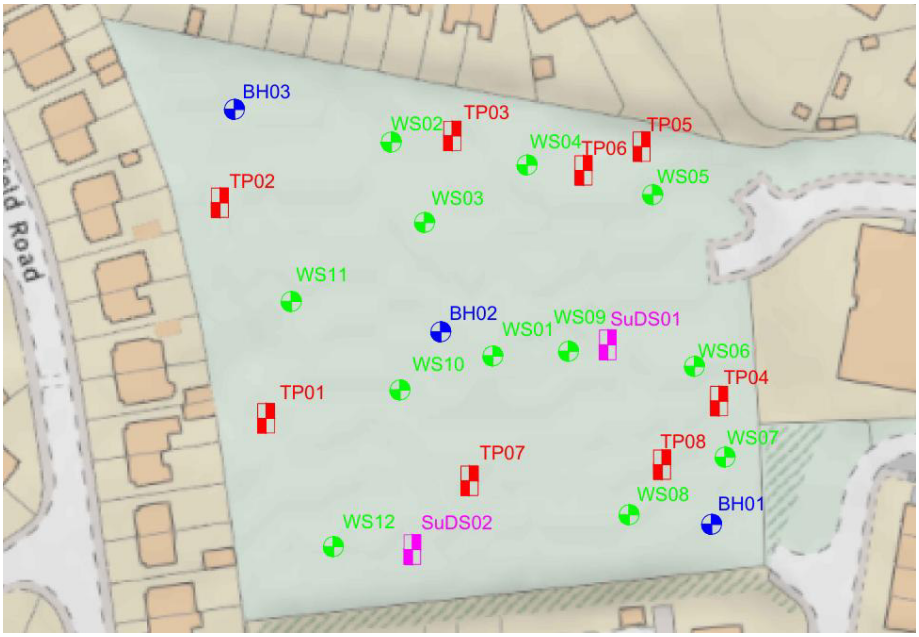
The surfacing population in WS05, WS07, BH01, TP05 and SuDS01 comprised of Made Ground, comprising dark brown gravelly fine to coarse Sand associated with material from the other phases of the development.

Made Ground

Made Ground was encountered in all exploratory hole locations apart from WS09, WS11, WS12, TP04 and TP08, to a maximum depth of between 0.8m and 2.9m begl. The Made Ground comprised the following two main populations:

- *Firm sandy mottled dark brown orange grey slightly gravelly Clay with minor constituents of Sandstone, brick and shale (reworked) was encountered in WS01, WS02, WS03, WS05, WS07, WS08, WS10, BH02, TP01 to TP03 and SuDS01 from depths of between 0.2m and 0.3m begl to depths of between 1.1m and 2.4m begl.*

- *Black and mottled orange grey occasionally slightly clayey occasionally gravelly fine to coarse Sand with minor constituents of shale, brick and sandstone was encountered in WS04, WS06, WS07, BH01, BH03, TP03, TP05 to TP07, SuDS01 and SuDS02 from depths of between ground level and 0.3m begl to depths of between 1.0m and 2.0m begl.*



Exploratory Hole Locations

The previous Ground Investigation also encountered similar populations of reworked Made Ground to a suspected maximum depth of between 2.1m and 5.0m begl however when assessing benchmarks on available historical maps and site observations the depth of Made Ground is considered to be shallower than 5.0m begl.

5.2 Natural Ground

The natural strata encountered generally confirmed the published geological records of Glacial Till and the previous Ground Investigation. Two main natural stratification units were encountered during the investigation and are described below:

- *Firm light brown, reddish brown and brown occasionally gravelly occasionally sandy occasionally silty Clay with minor constituents of siltstone was encountered in WS01, WS12, BH01, BH02, BH03, TP01 to TP03, TP06 and TP08 from depths of between 0.80m and 8.49m begl to depths of between 1.7m and 16.45m begl. The average thickness of the strata was circa 2.0m to 3.0m.*

- *Loose to medium dense light brown silty occasionally gravelly Sand with minor constituents of Sandstone and Siltstone was encountered in WS01 to WS12, BH01, BH02, BH03, TP01 to TP05, TP07, TP08, SuDS01 and SuDS02 from depths of between 0.2m and 2.9m begl to depths of between 4.0m and 16.0m begl. The average thickness of this strata was between 2.0m and 4.0m.*

5.3 Bedrock

Bedrock was not encountered in this investigation or the previous Ground Investigation by CC Geotechnical.

5.4 Groundwater

No groundwater was encountered during the Ground Investigation.

In the previous Ground Investigation by CC Geotechnical, perched groundwater seepages were recorded in BH4 at 3.45m begl, TP5 at 1.85m begl and TP10 at 2.5m begl in the granular Made Ground deposits. Groundwater seepages were also encountered in TP8 at 4.0m begl, BH4 at 4.76m begl and BH4 at 12.4m begl.

5.5 Watching Brief

A watching brief was maintained during the Ground Investigation for visual and olfactory evidence of contamination.

No visual or olfactory evidence of contamination was identified during the Ground Investigation. No evidence of contamination was recorded in the previous Ground Investigation by CC Geotechnical.

5.6 Excavation Stability

Collapse of the natural Sand strata was recorded in TP01, TP03 and TP07. No other evidence of spalling or collapse was noted during excavation of the trial pits.

5.7 Excavation Progress

No slow progress was experienced during the excavation of the trial pits.

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	Modified PI	Volume Change Potential	Desiccated
TP03	*1.00*		*NP*	
WS01	*1.20*	*20*	*Medium*	*No*
TP06	*2.00*	*13.72*	*Low*	*No*
TP08	*0.80*	*22.77*	*Medium*	*No*
TP02	*1.00*		*NP*	
TP01	*1.00*	*13.86*	*Low*	*No*

Quick Undrained Triaxial testing was undertaken on three samples. The results of the tests are summarised in the table below:

Reference	Depth (m)	Undrained Sheer Strength (kN/m^2)	Relative Strength
BH01	*4.0 – 4.45*	*70*	*Medium strength*
BH02	*1.20 – 1.65*	*55*	*Medium strength*
BH03	*11.0 – 11.45*	*87*	*High strength*

6.2 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 level of confidence, the ground model has evolved from the information obtained by the PRA previously undertaken.

Background

The site is currently unoccupied and formed by a grass surfaced field. The proposed development is the construction of 50 No. semi-detached dwellings with associated private gardens and access roads and forms Phase 3 of the larger development scheme.

Ground Conditions

Made Ground has been encountered beneath the site to a maximum depth of 2.9m begl and comprised both granular and cohesive reworked material with minor constituents of shale, brick, ceramic and sandstone. The previous Ground Investigation also recorded reworked material to a maximum proven depth of 5.0m begl. The natural strata underlying the Made Ground comprised of firm occasionally gravelly occasionally sandy silty Clay and loose to medium dense silty fine to coarse Sand. Bedrock was not encountered during the Ground Investigation.

No groundwater was encountered during the most recent Ground Investigation. Perched groundwater was encountered between 1.85m and 3.45m begl in the granular Made Ground and groundwater seepages were recorded between 4.0m and 12.4m begl in the previous Ground Investigation.

Limitations

The main limitation associated with ground engineering of the proposed development is the variable depth of reworked Made Ground up to a maximum depth of 2.9m begl. The presence of the reworked Made Ground may limit the feasibility of shallow foundations to be used.

Another limitation of the site is to low SPT values of between N=1 and N=9 which have been recorded across the site in the windowless sample boreholes to depths of between 3.0m and 4.0m in both the Clay and Sand deposits. Loose Sand and soft Clay are not considered to be suitable founding stratum, and foundations will need to be deepened to found in the medium dense and firm Clay deposits below.

Both cohesive and granular natural deposits have been encountered across the site which may lead to differential settlement. Foundations will require to be reinforced and/or deepened to found in one singular strata.

6.3 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 in *Appendix 7* to provide a generalised ground model for the site.

Characterization 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.

Stratum	Parameter	Selected Characteristic Value
Firm medium strength Clay	*Undrained shear strength (C_u)*	*60kPa*
Stiff high strength Clay	*Undrained shear strength (C_u)*	*87kPa*
Medium dense Sand	*Drained angle of friction (ϕ')*	*31°*
Loose Sand	*Drained angle of friction (ϕ')*	*26°*

6.4 Preliminary Foundation Design

The below recommendations are based on current site levels.

Based on the variable depth of Made Ground/reworked ground and low SPT N values recorded to a maximum depth of between 3.0m and 4.0m traditional shallow strip foundations are not considered to be suitable for the proposed development. A deeper foundation solution such as Vibro Stone Columns (VSCs) or piles are considered to be the most suitable foundation solution for the proposed development.

Vibro Stone Columns

Vibro Stone Columns (VSCs) supporting a reinforced strip foundation between columns is considered to be a suitable foundation option for the proposed development. A specialist vibro contractor has been contacted with regards to the suitability of VSCs and has confirmed that VSCs will be suitable for the majority of the proposed development apart from in the area of WS01, WS05 and WS10 due to the low SPT N values of between 0 and 1 recorded.

For VSCs to be suitable in the areas of soft Clay, the material would require excavating and backfilling with geotechnically suitable granular material in accordance with an approved earthworks specification. Alternatively, piles may be suitable for these areas of site.

Based on current site levels, treatment depths in areas where VSCs are suitable are likely to be between 2.0m and 4.0m begl, with the potential to achieve an ABP of 125kPa beneath the proposed strip foundations.

VSCs are also an option within the influence of trees, the requirements of NHBC Chapter 4.2 should be complied with.

Piled Foundation

For piled foundations, it is anticipated that driven piles would be preferred transferring the loads through the Made Ground/reworked ground, soft Clay and loose Sand into the underlying medium dense Sand or firm Clay.

Design by Calculation

Preliminary design by calculation has been carried out using due skill and care using the global factor of safety method. EC7 compliant calculations can be undertaken using partial factors when the permanent and variable loads are available.

Preliminary design by calculation has been carried out for all cable percussive boreholes and is summarised in the table below, the allowable loads are based on 225mm diameter piles:

Borehole	Pile length(m)	Pile Diameter (mm)	Allowable Load (kN)
BH01	8.0	225	145
BH01	10.0	225	190
BH02	8.0	225	160
BH02	10.0	225	150
BH03	8.0	225	125
BH03	11.0	225	150

BH03 has been calculated to have lower allowable loads due to end bearing in Clay and preferably piles should end bear in Sand where possible.

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.

Due to the number of storeys proposed and anticipated loads, static load testing is likely to be required by the warranty provider to validate the design by calculation.

The piling works should be carried out in accordance with Execution Standard BS EN 12699:2015 'Execution of special geotechnical works.

The piling works should be carried out in accordance with Execution Standard EN 1536 for Bored Piles if CFA piles are preferred. If driven piles are the preferred installation method, they will be driven to set using pile driving formulae in accordance with Eurocode 7.

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.

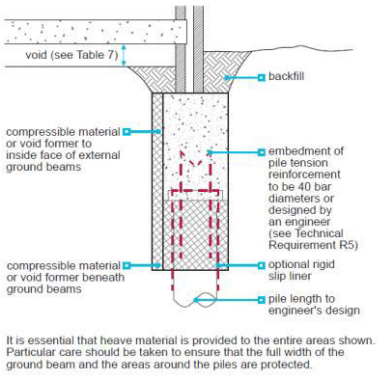
6.5 Building Near Trees

If foundation excavations encounter cohesive strata in the vicinity of existing, proposed or recently removed trees, foundations should be adjusted in full accordance with NHBC Standards Chapter 4.2. Semi mature and mature trees are present along the north, west and southern boundaries of the site.

All foundations should be deepened below roots of greater than 5mm diameter during excavations for footings. The clay is of a medium volume change potential, and foundations should be constructed at a minimum depth of 0.9m begl.

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 foundation depths due to trees already present or recently removed exceeds 1.5m there is a possibility for heave to occur on removal of the tree. NHBC Guidance states that heave precautions are required for medium volume change potential Clay in the form of a 25mm void against the side of foundations and ground beams.



Typical example of heave precautions for a piled foundation.

6.6 Floor Slabs

Due to the depth of Made Ground across the site generally exceeding 600mm, a suspended floor slab will be required for the proposed development.

As the Clay beneath the site is of medium volume change potential, NHBC guidance states that suspended in-situ concrete ground floors should have a minimum void of 100mm in thickness or 250mm is

recommended beneath suspended precast concrete floors where heave precautions are required. A suspended floor slab is also compatible with pile foundations.

A ground bearing floor slab is considered suitable for a vibro foundation solution, outside the influence of trees. A suspended floor slab should be adopted within tree influence.

6.7 Construction

The trial pits indicate that instability of excavations is not anticipated provided they are not exposed to adverse weather conditions for any substantial period of time. Collapse was noted locally in the natural Sand deposits in TP01, TP03 and TP07. Instability of the Made Ground is a possibility and should be considered in the groundwork's method statements.

Tracked high specification plant is recommended to maintain the build programme. No obstructions were recorded during the Ground Investigation, and breaking equipment is not likely to be required for excavations.

Groundwater was not encountered during the Groundtech Consulting Ground Investigation. In the previous Ground Investigation, perched groundwater was recorded between 1.85m and 3.45m begl and groundwater seepages were recorded between 4.0m and 12.4m begl. Therefore, groundwater is unlikely to be encountered during foundation excavations, however, may be present in deeper drainage runs.

6.8 Concrete Classification

Made Ground
Water soluble sulphate testing was undertaken on two samples of Made Ground. The range of soluble sulphate (SO_4) recorded is 4.6mg/l to 42.7mg/l. Associated pH values ranged between 8.18 and 8.59 indicating slightly alkaline conditions.

For a dataset containing less than five results, the highest soluble sulphate value is taken as the characteristic value along with the lowest pH result. For the Made Ground the characteristic soluble sulphate value is 42.7mg/l and the associated pH value is 8.18.

Natural Strata
Water soluble sulphate testing was undertaken on six samples of the natural strata. The range of soluble sulphate (SO_4) recorded is 4.8mg/l to 38.6mg/l. Associated pH values ranged between 6.87 and 8.59 indicating slightly alkaline conditions.

For a dataset containing five to nine results, the mean of the highest two soluble sulphate values should be taken as the characteristic value along with the mean of the lowest two pH values. For the natural strata, the characteristic soluble sulphate value is 23.55mg/l and the associated pH value is 7.02.

Groundwater was encountered beneath the site in the granular deposits, and the groundwater regime is considered to be mobile.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-1 and sulphate class DS-1 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.

6.9 Highway Design

CBR values of less than 3% are likely to be achieved in undisturbed natural cohesive 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 <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 frost susceptible due to the fines content, highway construction should be a minimum thickness of 450mm to mitigate against the risk.

6.10 Sustainable Urban Drainage System (SuDS)

Soil Percolation testing was undertaken at two locations (SuDS01 and SuDS02) in general accordance with BRE Digest 365 (2016). A summary of the soil percolation test results is given below and the full results are presented in *Appendix 8.*

Location	Test No.	Dimensions of Pit Before Test (mm)	Behaviour During Test	Dimensions of Pit After Test (mm)	Soil Infiltration Rate (m/sec)
SuDS01	*1*	*2000 x 600 x 2100*	*Stable*	*2000 x 600 x 2100*	*1.16×10^{-5}*
SuDS01	*2*	*2000 x 600 x 2100*	*Stable*	*2000 x 600 x 2100*	*9.33×10^{-6}*
SuDS01	*3*	*2000 x 600 x 2100*	*Stable*	*2000 x 600 x 2100*	*6.27×10^{-6}*
SuDS02	*1*	*2000 x 600 x 3000*	*Stable*	*2000 x 600 x 3000*	*7.74×10^{-6}*
SuDS02	*2*	*2000 x 600 x 3000*	*Stable*	*2000 x 600 x 3000*	*3.31×10^{-6}*
SuDS02	*3*	*2000 x 600 x 3000*	*Stable*	*2000 x 600 x 3000*	*4.85×10^{-6}*

Three fills were completed at positions SuDS01 and SuDS02 at depths of between 2.1m and 3.0m begl within the underlying natural granular deposits.

The testing undertaken calculated drainage rates of between 1.16×10^{-5}m/s and 7.74×10^{-6}m/s which indicate poor drainage conditions are present at the depths and locations tested.

The results of both soil percolation test locations were not BRE 365 compliant due to an insufficient time to drain past 25% effective depth likely due to the presence of silt and clay as a minor constituent during the Ground Investigation.

1m free board must be present beneath the invert level and the characteristic groundwater level requires determining.

7.0 LAND QUALITY

7.1 Geo-Environmental Testing Results - Soils

Samples of Made Ground and Topsoil have been tested for a range of relevant Contaminants of Concern. 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 testing.

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 housing with private domestic gardens with associated driveways, pavements and access roads. We have therefore undertaken the GQRA on the basis that the proposed development site falls under the Residential (with 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	Number of Samples Tested	Locations
Granular Made Ground	*2*	*TP06, WS07*
Cohesive Made Ground	*4*	*WS02, WS05 x 2, WS08*
Made Ground Topsoil	*11*	*BH03, TP01 to TP05, TP07, WS03, WS04, WS06, SuDS02*
Natural Topsoil	*3*	*WS09 to WS11*

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	*3.4 – 23.5*	*37*	*0*	-
Cadmium	*<0.3*	*11*	*0*	-
Chromium	*19.5 – 71.5*	*910*	*0*	-
Hexavalent Chromium	*<0.3 – <6.0*	*6*	*0*	-
Copper	*8 – 64*	*2400*	*0*	-
Lead	*9 – 264*	*200*	*1*	*WS09 at 0.2*

Mercury	*<0.1 – 20.7*	*1.2*	*2*	*WS09 at 0.2 WS10 at 0.2*
Nickel	*5.1 – 47.5*	*130*	*0*	-
Selenium	*<1 – 1.0*	*250*	*0*	-
Zinc	*12 – 90*	*3700*	*0*	-
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (mg/kg)	Screening value (mg/kg)	Exceedances	Locations
Naphthalene	*<0.04 – 0.27*	*15f*	*0*	-
Acenaphthylene	*<0.03 – 0.09*	*170*	*0*	-
Acenaphthene	*<0.05 – 0.29*	*210*	*0*	-
Fluorene	*<0.04 – 0.25*	*170*	*0*	-
Phenanthrene	*<0.03 – 3.08*	*95*	*0*	-
Anthracene	*<0.04 – 0.70*	*2400*	*0*	-
Fluoranthene	*<0.03 – 4.17*	*280*	*0*	-
Pyrene	*<0.03 – 3.77*	*620*	*0*	-
Benzo(a)anthracene	*<0.06 – 2.39*	*7.2*	*0*	-
Chrysene	*<0.02 – 2.52*	*15*	*0*	-
Benzo(b)fluoranthene	*<0.05 – 3.68*	*2.6*	*1*	*TP06 at 0.5*
Benzo(k)fluoranthene	*<0.02 – 1.43*	*77*	*0*	
Benzo(a)pyrene	*<0.04 – 3.79*	*2.2*	*1*	*TP06 at 0.5*
Indeno(123cd)pyrene	*<0.04 – 2.54*	*27*	*0*	-
Dibenzo(ah)anthracene	*<0.04 – 0.47*	*0.24*	*1*	*TP06 at 0.5*
Benzo(ghi)perylene	*<0.04 – 2.38*	*320*	*0*	-
TPH CWG - Aliphatics				
Contaminant	Range (mg/kg)	Screening value (mg/kg)	Exceedances	Locations
>C5-C6	*<0.10*	*42*	*0*	-
>C6-C8	*<0.10*	*100*	*0*	-
>C8-C10	*<0.10*	*27*	*0*	-
>C10-C12	*<0.20*	*130*	*0*	-
>C12-C16	*<4.00*	*1100*	*0*	-
>C16-C21	*<7.00*	*260*	*0*	-
>C21-C35	*<7.00 – 33.0*	*1100*	*0*	-
Total aliphatics C5-35	*<19.00 – 33.0*	-	-	-
TPH CWG - Aromatics				
Contaminant	Range (mg/)	Screening value (mg/kg)	Exceedances	Locations
>C5-EC7	*<0.10*	*70*	*0*	-
>EC7-EC8	*<0.10*	*130*	*0*	-
>EC8-EC10	*<0.10*	*34*	*0*	-
>EC10-EC12	*<0.20*	*74*	*0*	-
>EC12-EC16	*<4.00*	*140*	*0*	-
>EC16-EC21	*<7.00 – 20.0*	*260*	*0*	-
>EC21-EC35	*<7.00 – 108*	*1100*	*0*	-
Total aromatics C5-35	*<19.00 – 125*	-	-	-
Total aliphatics and aromatics(C5-35)	*<38.00 – 158*	-	-	-

MTBE	*<5.00 ug/kg*	*49,000 ug/kg*	*0*	-
Benzene	*<5.00 ug/kg*	*87 ug/kg*	*0*	-
Toluene	*<5.00 – 17.0 ug/kg*	*130,000 ug/kg*	*0*	-
Ethylbenzene	*<5.00 ug/kg*	*47,000 ug/kg*	*0*	-
m/p-Xylene	*<5.00 ug/kg*	*56,000 ug/kg*	*0*	-
o-Xylene	*<5.00 ug/kg*	*60,000 ug/kg*	*0*	-
Others				
Organic Matter	*0.8 – 19.7%*			
pH	*5.27 – 7.99*			
Asbestos Screen				
Position	Depth (m bgl)	Result	Quantification	
SuDS02	*0.20*	*Chrysotile fibre bundles and ACM debris*	*0.019 mass%*	

7.2 Generic Quantitative Risk Assessment - Soils

The surfacing of the site comprised of both Made Ground and natural Topsoil to a maximum depth of between 0.2m and 0.35m begl.

Both cohesive and granular Made Ground/reworked ground was encountered below the surfacing population across the site to maximum depths of between 0.8m and 2.9m begl. Similar Made Ground populations were recorded in the previous Ground Investigation to a maximum depth of between 2.1m and 5.0m begl. No visual or olfactory evidence of contamination was noted during both phases of Ground Investigation.

The site is currently unoccupied. Historically, the site was developed with a football pitch from 1922 onwards.

Metals

An elevated concentration of lead was recorded in the natural Topsoil in WS09 at 0.2m begl. The concentration exceeded the adopted residential with plant uptake Generic Assessment Criterion (GAC) of 200 mg/kg, although the exceedance was relatively minor, being less than two times the assessment criterion.

Elevated concentrations of mercury were also recorded in the natural Topsoil in WS09 and WS10 at 0.2m begl. The concentration in WS10 was 1.3 mg/kg, marginally exceeding the adopted GAC of 1.2 mg/kg. The concentration in WS09 was significantly higher at 20.7 mg/kg, representing more than 17 times the assessment criterion.

The elevated concentrations are restricted to the near-surface topsoil and were not identified within the Made Ground/reworked ground encountered during the previous ground investigation. The elevated concentrations may be associated with historical management practices relating to the former football pitch; however, the concentrations recorded, particularly for mercury, are not sufficient to reliably identify a specific source and the of the contaminant's origin remains uncertain.

No elevated concentrations were recorded within the Made Ground/reworked ground during the previous ground investigation.

Polycyclic Aromatic Hydrocarbons (PAHs)
When compared with residential with plant uptake screening values, elevated concentrations of benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene were recorded in a single sample of granular Made Ground obtained from TP06 at 0.5m begl. The elevated concentrations were recorded at one to two times the respective screening values.

The slightly elevated concentrations of PAHs are likely associated with the minor constituents in the Made Ground/reworked ground encountered.

Total Petroleum Hydrocarbons (TPH CWG), MTBE and BTEX
No elevated concentrations of TPHs were recorded in the three samples tested and the majority of TPHs, BTEX and MTBE, inclusive of those within volatile range, were recorded below laboratory limits of detection.

Asbestos
One of the twenty samples screened contained asbestos fibres and ACM debris at a concentration of 0.019 mass% in the Made Ground Topsoil. None of the other nineteen samples were found to contain asbestos. The previous Ground Investigation also did not record any concentrations of asbestos.

7.3 Permanent Ground Gases

To date, one gas monitoring visit has been carried out on the 15th July 2026, five further gas monitoring visits are scheduled.

Detectable levels of carbon dioxide were recorded in the standpipes up to a maximum concentration of 3.9%v/v together with a minimum oxygen concentration of 18.2%v/v, steady state concentrations were generally the same as peak concentrations. Methane was not recorded in any of the standpipes.

No positive flow rates have been noted during the monitoring visits.

The atmospheric pressure ranged between 1013mb and 1014mb and the visit was carried out during a period of steady pressure.

No groundwater was encountered in any of the monitoring standpipes.

Characterisation of the Gas Screening Value
Based upon the results recorded, in accordance with NHBC Foundation Hazardous Ground Gas April 2023, BS 8485:2019 and 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.

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

For this interim assessment, the maximum recorded concentration of carbon dioxide of 3.9%v/v has been used. No positive gas flow rates have been detected, therefore the limit of detection of the gas analyser of 0.1l/hr has been used to calculate the GSV.

Carbon Dioxide GSV = 0.0039 (3.9%) x 0.1 = 0.00039 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 NHBC Foundation Hazardous Ground Gas April 2023 and BS 8485:2019. Based on the site being developed for residential housing end use, the Wilson and Card method has been used to carry out the assessment.

Characteristic Situation 1

The GSV value for carbon dioxide is below the assessment GSV of 0.07l/hr and falls within Characteristic Situation 1, therefore gas protection measures are not required at this stage. Low concentrations of carbon dioxide fall below the minimum assessment criteria of 5%.

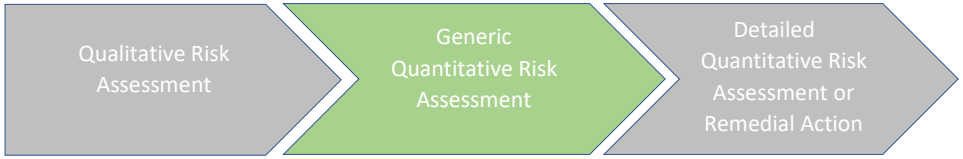
The final gas assessment will confirm the level of precautions required, if any.

The site is not within an area requiring radon precautions to be built into the foundations of new developments.

7.4 Revised Pollution Linkage Assessment

The CSM has been revised based on the Ground Investigation and testing using Source-Pathway-Receptor assessment criteria that is applicable in the UK, a risk assessment has been completed to determine if a plausible pollution linkage exists between the identified contaminants and receptors. The risk classification has been estimated in accordance with the CIRIA C552 assessment criteria outlined in *Appendix 10*.

Human Health Pollution Linkage Assessment



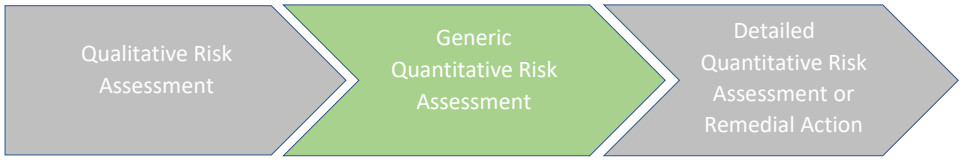
- The table below represents the second stage in the land quality risk assessment process - **the Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose 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.	Unlikely	Medium	Moderate to Low	*Pollution Linkage 1 refers to proposed site users coming into contact with contaminated soils on the site.* *Historically, the site has remained largely undeveloped other than being utilised as a football pitch from 1922 onwards. A pond is also shown to encroach onto the south of the site between 1909 and 1922. Made Ground/reworked ground was recorded between the depths of 0.8m and 2.9m begl during the Ground Investigation.* *Elevated concentrations of lead and mercury were recorded in the natural Topsoil in WS09 and WS10 at 0.2m begl and elevated concentrations of PAHs were recorded in the cohesive Made Ground in TP06 at 0.5m begl. Chrysotile asbestos fibres and ACM debris were also recorded locally in the Made Ground Topsoil in SuDS02 at 0.2m begl. The JiWG receptor decision tool classified the site as Low.* *The proposed development is residential end use comprising the construction of residential dwellings with private gardens, driveways and access roads.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
						A localised source of contamination has been identified and a minor pollution linkage exists.
PL2	Contaminated Soils	Inhalation of vapour.	Low likelihood	Medium to Severe	Low	*Pollution linkage 2 refers to vapours migrating into confined spaces within the proposed development.* *No sources of volatile contamination was identified during the Ground Investigation and a realistic pollution linkage does not exist.*
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	*Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users.* *No mobile contamination was identified during the Ground Investigation and a viable pollution linkage is not considered to be present.*
PL4	Contaminated Soils	Attacking potable water supply pipe.	Likely	Medium	Moderate to Low	*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 beneath the site to depths of between 0.8m and 2.9m begl and pipelines may be installed in the Made Ground. No sources of organic contamination have been identified however it is prudent to undertake a local water*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
						company risk assessment should be carried out prior to construction to confirm the pipe material.
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Likely	Medium to Severe	Moderate to Low	*Made Ground has been encountered on site to depths of between 0.8m and 2.9m begl.* *The gas monitoring results place the site in CS1 based on the GSV and no exceedances of typical maximum concentrations. However, the previous Ground Investigation recorded carbon dioxide concentrations above 5% v/v which increased the classification of the site to CS2. This is based on the wider development and not just the phase three area targeted during the current investigation.* *At this stage, gas protection measures are not considered to be required for the proposed development and this will be confirmed upon completion of the monitoring.* *The site is not within an area requiring radon precautions within foundations.*

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	Medium	Low	*Made Ground/reworked ground has been encountered beneath the site to a maximum depth of 2.9m begl.* *The superficial deposits (Glacial Till) are classified as a Secondary Undifferentiated Aquifer. The bedrock geology underlying the site is indicated to be the Chester Formation which is classified as a Principal Aquifer.* *No significant sources of mobile contamination have been identified during the Ground Investigation and no groundwater was encountered in the investigation of during the monitoring undertaken to date therefore a possible pollution linkage is not considered to exist.*
PL7	Contaminated Soils	Migration of soil and groundwater	Likely	Medium	Low	*Pollution Linkage 7 refers to the impaction of nearby watercourses. The nearest named watercourse is the River Irk c.500m east of the site.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
		contamination impacting surface waters.				*No sources of mobile contamination have been identified during the Ground Investigation and a plausible pollution linkage is not considered to exist.*

7.5 Outline Remedial Strategy

Soils

Made Ground has been encountered beneath the site to depths of between 0.8m and 2.9m begl and comprised both granular and cohesive deposits with minor constituents of brick, shale and sandstone. Elevated concentrations of lead and mercury were recorded in the natural Topsoil. A single elevated concentration of PAHs was recorded in the cohesive Made Ground recovered from TP06 at 0.5m begl. Asbestos fibres and ACM debris was recorded in one of the twenty samples of Made Ground Topsoil recovered from SuDS02 at 0.2m begl.

Based on the elevated concentrations of heavy metals in the natural Topsoil recorded locally in WS09, WS11 and WS12 this material is unlikely to be suitable for reuse. It should be noted that the screening value for mercury is based on elemental mercury which is considered to be volatile above the concentration of 1.2mg/kg. However due to these elevations being in the Topsoil this is not considered to pose a volatile risk on site. The natural Topsoil should be stripped and stockpiled separated on site prior to removal. The Made Ground Topsoil where asbestos has been recorded at location SuDS02 will also not be suitable for reuse and should be delineated, stripped and stockpiled separately for removal from site. The location where Made Ground or natural Topsoil has been encountered in presented on Groundtech Plan GRO-26222-P04.

Based on the testing undertaken to date, the remainder of the Made Ground Topsoil is considered to be chemically suitable for reuse. Due to the minor constituents observed in the Topsoil during the Ground Investigation including brick and concrete the material is not considered to be physically suitable for reuse at this stage. The Topsoil will require screening prior to reuse to remove any anthropogenic material.

In areas where Made Ground is present at formation level in areas of private residential gardens, a 600mm cover system comprising a minimum thickness of 150mm Topsoil should be placed. In Public Open Space (POS) areas where Made Ground is present, the cover system should be 300mm.

The depth of the cover system placed, and chemical suitability of the material should be validated by Groundtech Consulting.

Ground Gas

Interim gas monitoring results place the site in Characteristic Situation 1 (CS1) and gas protection measures are not required in the proposed development. The level of protection will be confirmed in the final gas assessment.

The site is not in an area where radon protective measures are required.

Controlled Waters

No mobile contamination has been encountered beneath the site, and no remediation measures are required with respect to controlled waters.

Watching Brief and Regulatory Compliance

A watching brief for visual and olfactory evidence of contamination should be undertaken during future ground works especially in the area of the historic pond. 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. A Remedial Specification is recommended which will include a protocol for dealing with the risk from contaminated soils identified.

7.6 Asbestos in Soils

Asbestos screening of twenty soil samples identified asbestos fibres and ACM debris within one Made Ground topsoil sample. The asbestos was detected in SuDS02 at 0.2m begl at a concentration of 0.019 mass%.

Given the proposed residential end use, the asbestos-impacted topsoil should be appropriately managed during earthworks. Where practicable, asbestos-containing soils should remain undisturbed; however, as the asbestos was encountered within topsoil, disturbance and removal are likely to be required as part of the development works.

Based on the available information and applying the Joint Industry Working Group (JIWG) guidance, the identified asbestos is considered to present a low risk during groundworks. The JIWG tables are presented in *Appendix 11*. It is anticipated that any associated excavation works would fall within the scope of non-licensed work under the Control of Asbestos Regulations 2012. However, the final classification of the works remains the responsibility of the appointed contractor, who should undertake a site-specific asbestos risk assessment and implement appropriate control measures in accordance with current legislation and guidance.

Excavation, handling, and off-site disposal of asbestos-impacted soils should be undertaken under a suitable method statement prepared by a competent contractor. Following removal of the identified asbestos-impacted soils, the potential risk associated with this source would be significantly reduced and considered acceptable for the proposed development, subject to validation where required.

The Contractors staff undertaking the earthworks should be suitably trained for NLW, asbestos awareness training alone is not sufficient.

The presence of asbestos within the ground will require, a safe system of work to be set up on site to deal with the asbestos risk from the made ground. This may include but be not limited to:

- *The use of qualified personnel where required.*
- *Careful segregation of stockpiles on site.*
- *Defining transport routes.*
- *Cleaning down of machinery in designated areas.*
- *Decontamination unit for ground workers.*
- *Damping down of soils to prevent dust migration.*

All such works will need to be agreed with the regulatory bodies (HSE, LA).

7.7 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*	*Ingestion, direct contact, inhalation of dusts.*	*Likely*	*Medium*	***Low***

PL Ref	Potential Source	Pollution Linkage	Likelihood	Severity	Level of Risk
PL8	*Asbestos*	*Ingestion, direct contact, inhalation of dusts.*	*Likely*	*Medium*	***Low***

Made Ground has been encountered beneath the site to a maximum depth of 2.9m begl. Elevated concentrations of PAHs have been recorded in the cohesive Made Ground. Elevations of heavy metals have also been recorded in the natural Topsoil, and a single asbestos identification was recorded in the Made Ground topsoil both of which are recommended to be removed from site. Site workers should be made aware of the risk through site indication, health and safety talks and the relevant information should be made available 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.*

7.8 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.

Twenty samples were tested to assess whether they contained any contaminants are 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 been classified as *Non-Hazardous*. Testing was not undertaken on the natural soils and are assumed to also be *Non-Hazardous*.

A single asbestos identification was recorded in the Made Ground topsoil of SuDS02 at 0.2m begl at a concentration of 0.019 mass%. The sample does not exceed the Hazardous threshold of 0.1 mass% and will not impact the waste classification.

7.9 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 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 that 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 is currently unoccupied and formed by a grass surfaced field. It was formerly utilised as a football pitch, shown on historical maps from 1922. The site area is 'Phase 3' of a wider development and comprises the construction of 50 No. detached and semi detached dwellings with associated access roads, driveways and private gardens.

Elevated concentrations of lead and mercury were recorded above the relevant GAC screening values in the natural Topsoil in WS09 and WS10 at 0.2m begl. A single asbestos identification was also recorded in SuDS01 at 0.2m begl in the Made Ground topsoil. Elevated concentrations of benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene were recorded above the relevant GAC screening values in the sample of cohesive Made Ground recovered from TP06 at 0.5m begl.

Slightly elevated concentrations of PAHs were recorded in the cohesive Made Ground. Therefore, in areas where Made Ground is present in private residential gardens, a 600mm cover system comprising a minimum 150mm of Topsoil should be placed. A 300mm cover system should be installed in POS areas, where Made Ground is present.

The natural Topsoil encountered locally in WS09, WS11 and WS12 is not considered suitable for reuse due to the elevated concentrations of heavy metals recorded. The Made Ground Topsoil in the vicinity of TP06 is also not suitable for reuse due to the asbestos identified. These areas of Topsoil should be stripped and stockpiled separately prior to removal from site. The remainder of the Made Ground topsoil is considered to be chemically suitable for reuse as no elevated CoC have been recorded. However, the topsoil should be screened to remove any anthropogenic materials such as brick and concrete, prior to reuse in order to be physically suitable.

Interim Ground Gas monitoring results indicate that a CS1 risk rating is applicable and gas protection measures are not required for the development at this stage. This will be confirmed upon completion of the monitoring.

The waste classification assessment classified the Made Ground and Topsoil deposits as *Non-Hazardous* for waste disposal purposes.

8.2 Ground Engineering

Due to the deep Made Ground, loose Sand and soft Clay deposits encountered across the site, traditional shallow strip/trench foundations are not considered to be suitable for the proposed development. Alternatively, Vibro Stone Columns or piled foundations could be adopted as the foundation solution for the proposed developement. Within the influence of trees, the requirements of NHBC Chapter 4.2 should be complied with.

As greater than 600mm of Made Ground has generally been encountered across the site, a suspended floor slab should be adopted for the proposed dwellings. A suspended floor slab is compatible with piled foundations and will also be required in areas where heave precautions are required. If VSCs are the selected foundation type, a ground bearing floor slab will be suitable.

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

The site is shown to be in an area at low risk of flooding.

The soil percolation test results indicate that SuDS drainage will not be feasible for the proposed development due to the poor infiltration rates observed during the Ground Investigation.

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
Tree survey by qualified arboriculturist
Detailed Foundation design
Confirmation of recommendations made in this appraisal with regulators

9.0 RELEVANT INDUSTRY REFERENCES

British Standards Institution. *Investigation of Potentially Contaminated sites - code of practice*. BS 10175:2017.

British Standards Institution '*Code of Practice for Site Investigations*' BS 5930:2020.

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of soil*" BS EN ISO 14688:2002.

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of rock*" BS EN ISO 14689:2002.

BRE Report BR211 '*Radon – Guidance on protective measures for new buildings'* 2015 Edition.

BRE Special Digest 1: "*Concrete in Aggressive Ground*" 3rd Ed 2005.

CIRIA 552 "Contaminated Land Risk Assessment – A guide to good practice" 2001.

CIRIA C665 "Assessing Risks Posed by Hazardous Ground Gases to Buildings" 2007.

Wilson & Card "*Proposed method classifying gassing sites*" Ground Engineering 1999.

Card & Steve Wilson in "*A pragmatic approach to ground gas risk assessment for the 21st Century*" - CIRIA/Environmental Protection UK Ground gas seminar 2011

BS 8576:2013 '*Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'*

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

The Hazardous Waste (England) Regulations 2005.

Environment Agency Hazardous Waste: "*Guidance on the classification and assessment of waste"* WM3 ver 1 May 2015.

The National Planning Policy Framework (NPPF) March 2012

DETR. Circular 02/2000 Contaminated Land.

Environment Agency, 2009 'Using Soil Guideline Values'.

Environment Agency, 2009 'Updated Technical Background to the CLEA model'.

Environment Agency, 2009 'Human health toxicological assessment of contaminants in soil'.

Department of the Environment, 1994, CLR Report No 1 'A framework for assessing the impact of contaminated land on groundwater and surface water'.

Department of the Environment, 1994, CLR Report No 2 'Guidance on Preliminary Site Inspection of Contaminated Land'.

Department of the Environment, 1994, CLR Report No 3 'Documentary research on Industrial Sites'.

Department of the Environment, 1994, CLR Report No 4 'Sampling Strategies for Contaminated Land'.

DEFRA and the Environment Agency, 2002-2004, CLR10 'Soil Guideline Value Reports for Individual Soil Contaminants'.

Land Contamination Risk Management (LCRM), April 2021.

Nathanail, C. P., McCaffrey, C., Gillett, A., Ogden, R. C. and Nathanail, J.F. 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, Nottingham.

CL:AIRE, 2014 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination'.

Water Framework Directive.

Environmental Quality Standards.

UK Drinking Water Standards: Water Supply (Water Quality) Regulations 1989 (SI 1989/1147) and Water Supply (Water Quality) Regulations

UKWIR Report 10/WM/03/21 2010 "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites"

Health & Safety Executive, 1991. 'Protection of Workers & the General Public during the Development of Contaminated Land'.

Environment Agency & NHBC, 2000. R&D Publication 66. Guidance for the Safe Development of Housing on Land Affected by Contamination.

Environment Agency "Guidance on the classification and assessment of waste (1st edition 2015) Technical Guidance WM3"

NHBC Standards 2025.

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

Control of Asbestos Regulations (CAR) 2012

Harris, M R, Herbert, S. M, Smith, M A 'Remedial Treatment for Contaminated Land' (twelve volumes), special publications 101-112, CIRIA 1996.

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

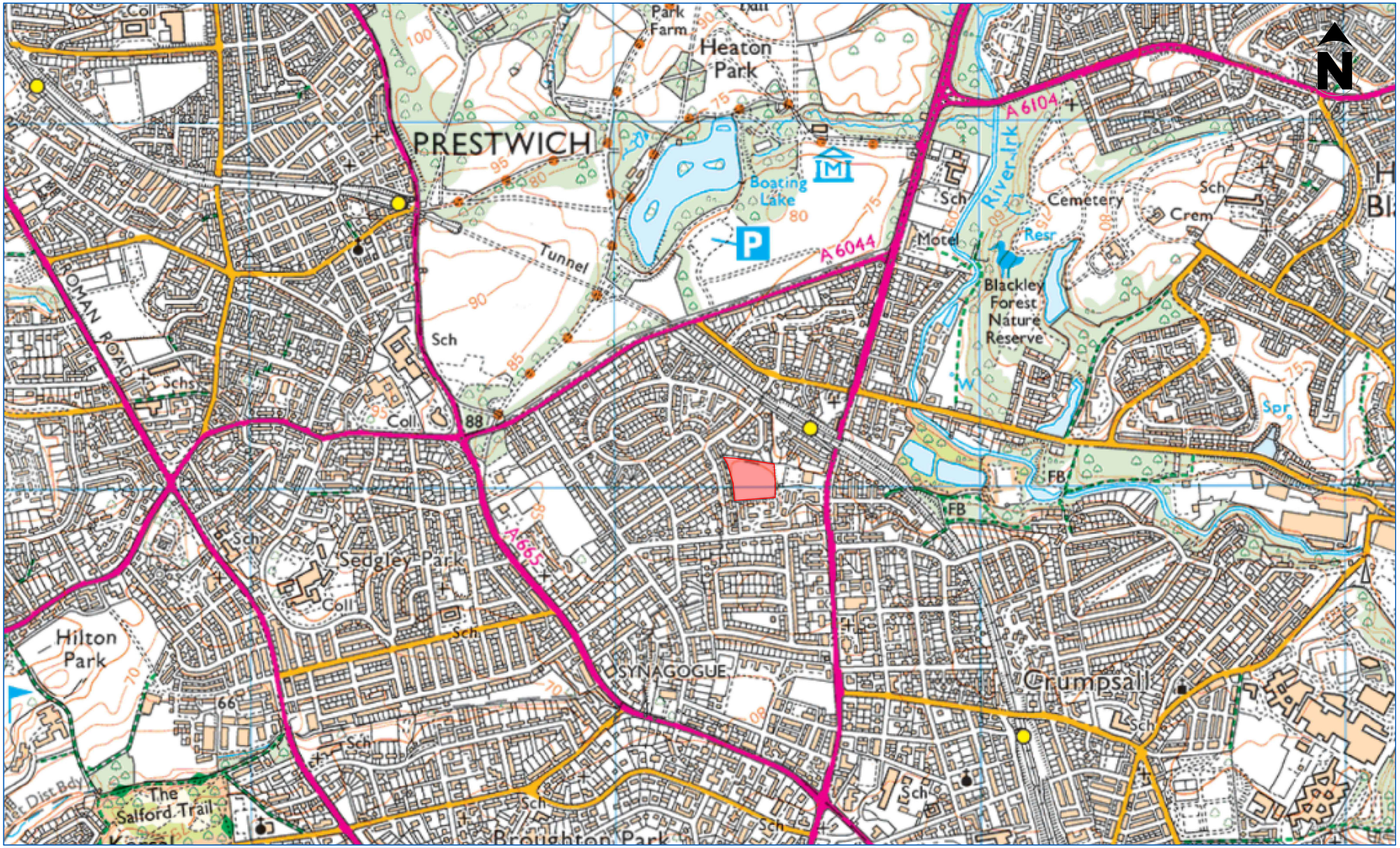
BRE Digest 365 "Soakaway Design" 2016.

Environment Agency. R&D Publication 20. Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources. 1999.

Environment Agency Technical Guidance Note 01. Hydrogeological Risk Assessment for Landfills.

Specification for Highways Works – Series 600 Earthworks November 2016.

APPENDIX 1 - Plans



GROUNDTECH CONSULTING

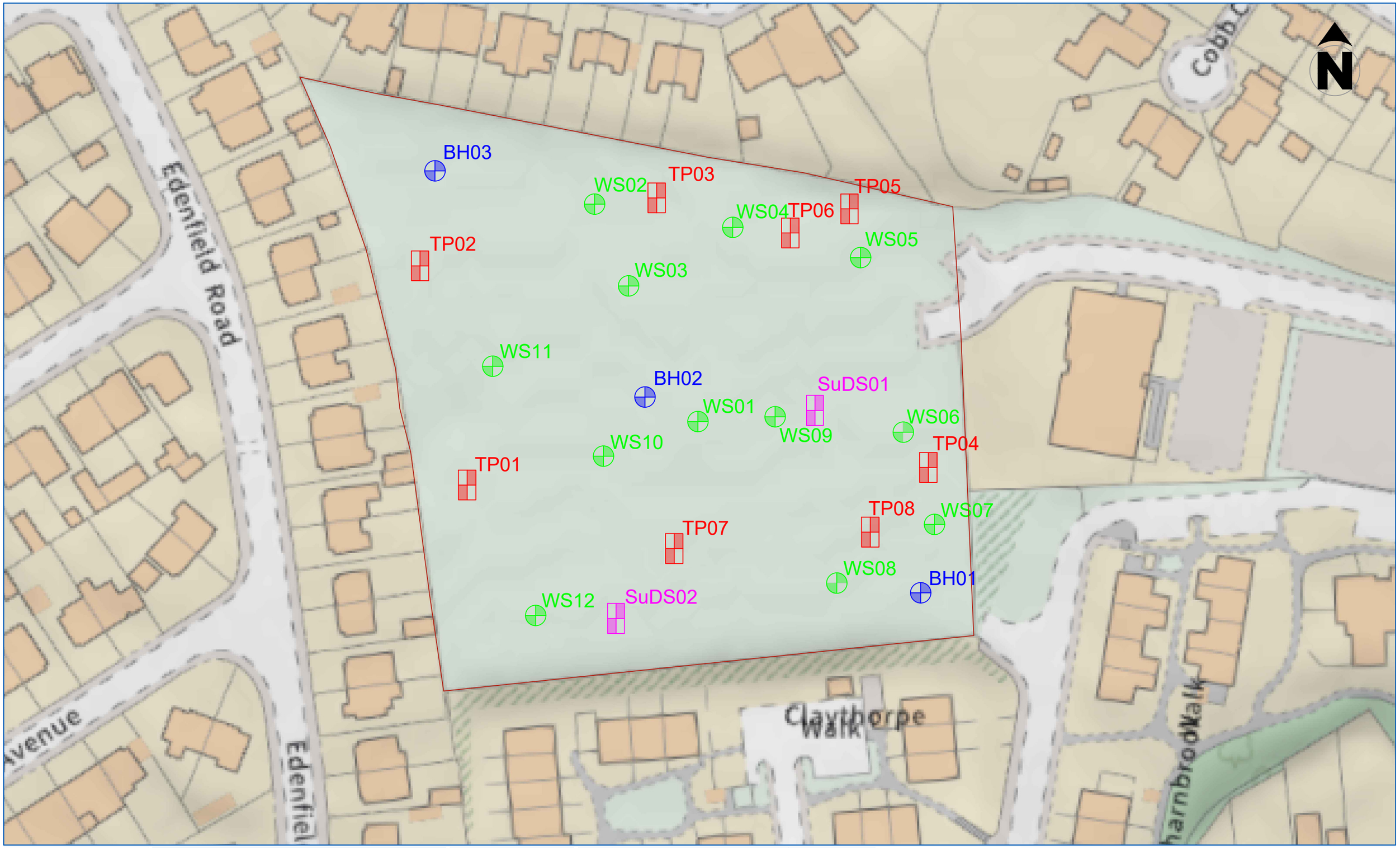
CLIENT	WAIN HOMES
PROJECT TITLE	MIDDLETON ROAD, CRUMPSALL
PLAN TITLE	PROJECT LOCATION PLAN
DATE	JULY 2026
SCALE	NTS
PLAN NUMBER	GRO-26222-P01

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

● Site Location



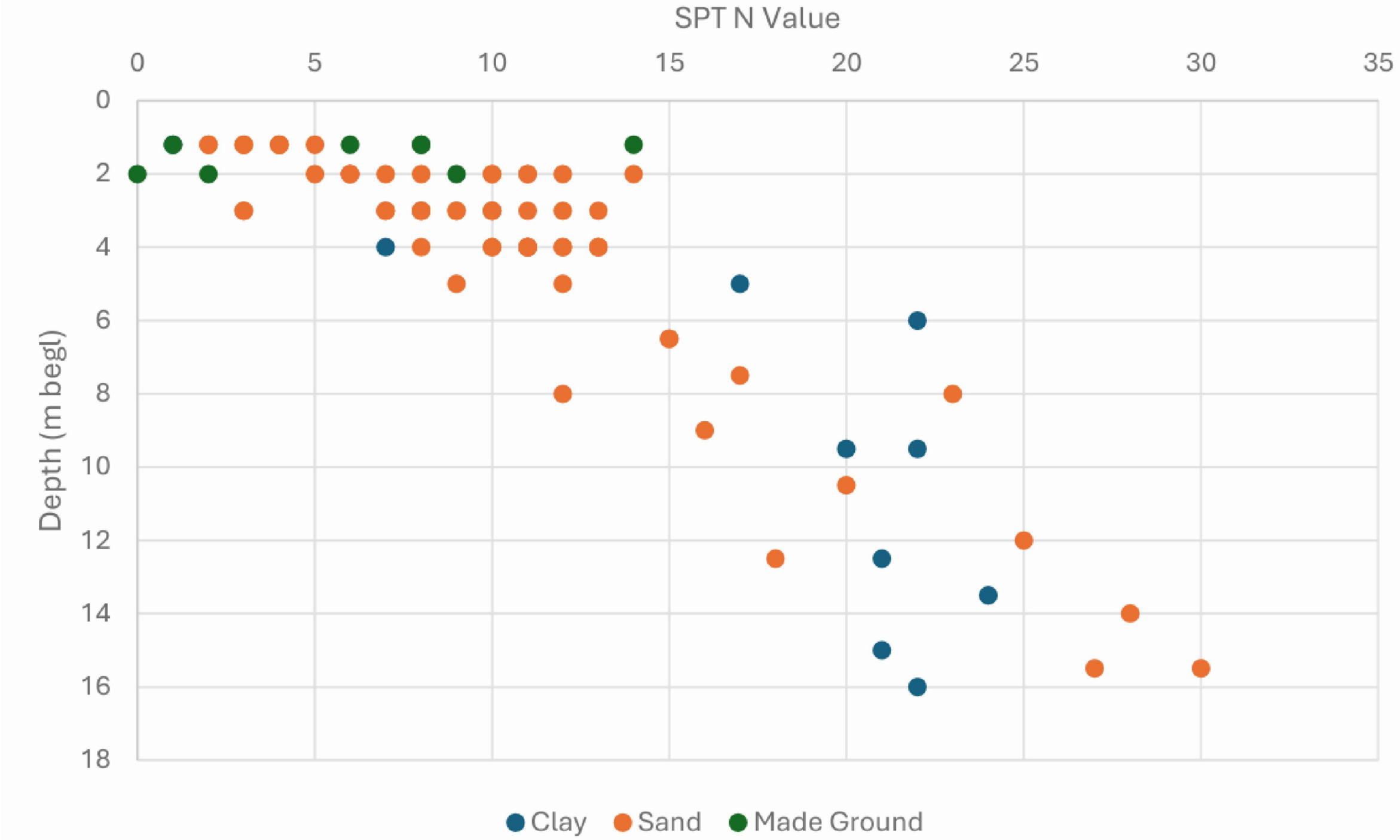
GROUNDTECH CONSULTING	CLIENT: WAIN HOMES	DATE: JUNE 2026
	PROJECT TITLE: MIDDLETON ROAD, CRUMPSALL	SCALE: NTS
	PLAN TITLE: EXPLORATORY HOLE LOCATION PLAN	PLAN NUMBER: GRO-26222-P02

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

- Cable Percussive Borehole Location
- Windowless Sample Borehole Location
- Soil Percolation Test Location
- Trial Pit Location



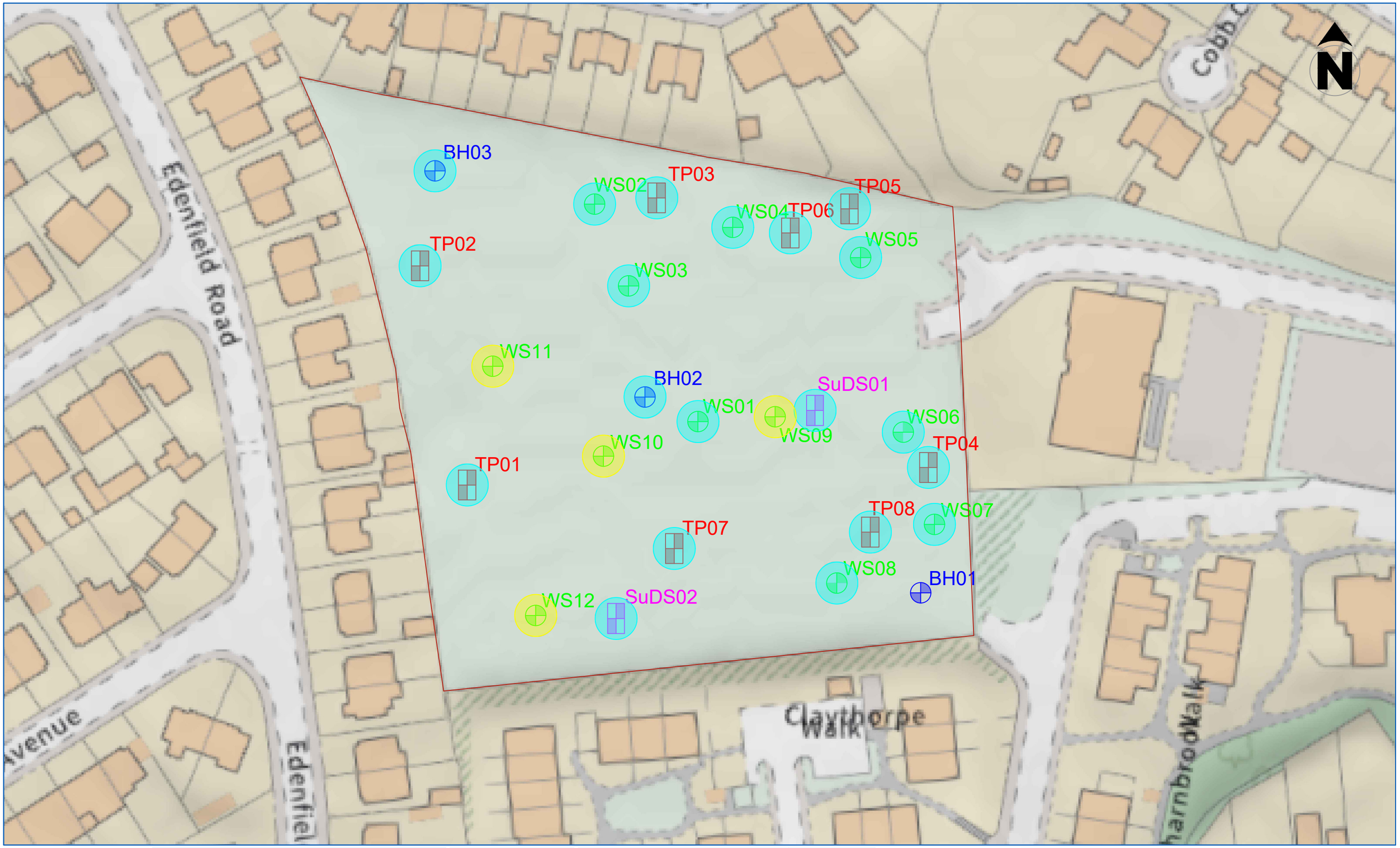
GROUNDTECH CONSULTING

CLIENT	WAIN HOMES
PROJECT TITLE	MIDDLETON ROAD, CRUMPSALL
PLAN TITLE	GENERALISED GROUND MODEL
DATE	JULY 2026
SCALE	NTS
PLAN NUMBER	GRO-26222-P03

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes



GROUNDTECH CONSULTING

CLIENT	WAIN HOMES
PROJECT TITLE	MIDDLETON ROAD, CRUMPSALL
PLAN TITLE	TOPSOIL CHARACTERISATION PLAN

DATE	JUNE 2026
SCALE	NTS
PLAN NUMBER	GRO-26222-P04

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

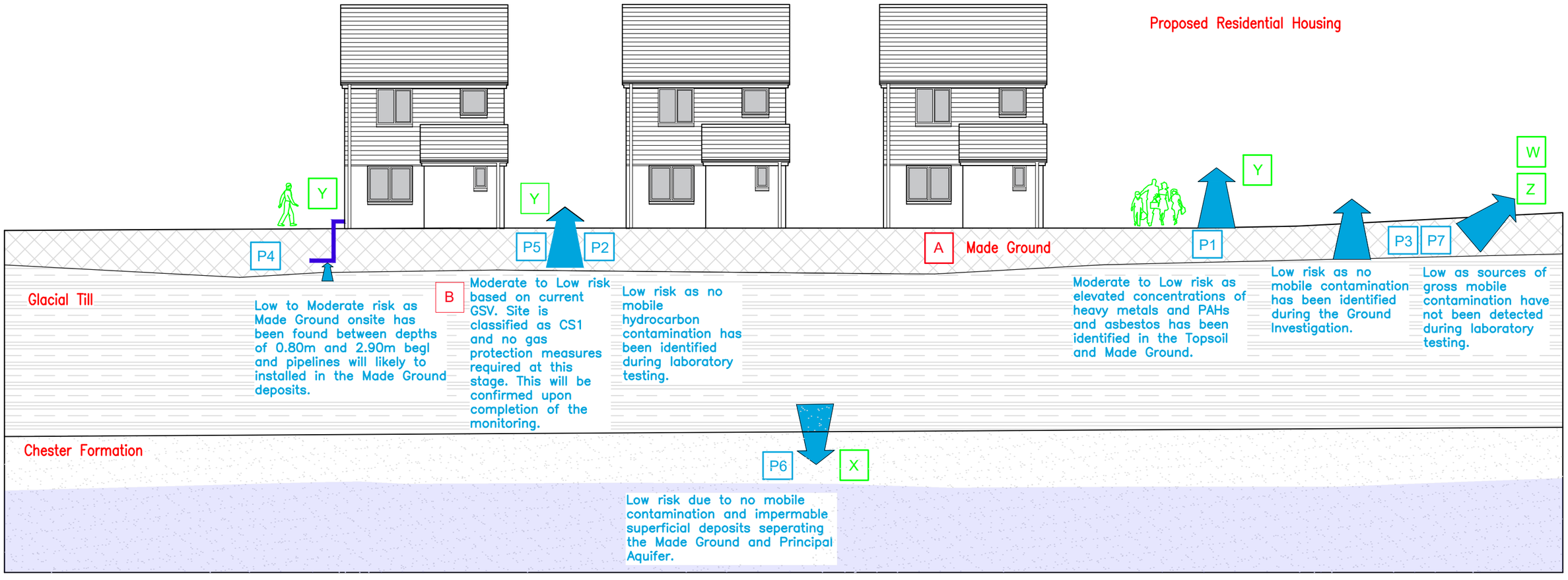
Notes

- Cable Percussive Borehole Location
- Windowless Sample Borehole Location
- Soil Percolation Test Location
- Trial Pit Location
- Made Ground Topsoil
- Natural Topsoil

SOURCES
A. Contaminated soils / Made Ground. B. Ground gas.

POLLUTION LINKAGES
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.

RECEPTORS
W. River Irk c.500m east of the site X. Groundwater within the Principle Aquifer Y. Site end users Z. Adjacent site users



GROUNDTECH CONSULTING

CLIENT	WAIN HOMES
PROJECT TITLE	MIDDLETON ROAD, CRUMPSALL
PLAN TITLE	REVISED ILLUSTRATIVE CSM
DATE	JULY 2026
SCALE	NTS
PLAN NUMBER	GRO-26222-P05

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 2 - Site Photographs



Photograph 1 – Entrance to site from the east



Photograph 2 – Construction materials mounded at site entrance



Photograph 3 – Construction materials across the east of site



Photograph 4 - Overview of site area



Photograph 5 – Hummocky ground in the south of site



Photograph 6 – Overgrown vegetation in the south of site

APPENDIX 3 – Exploratory Hole Logs

GROUNDTECH CONSULTING

Borehole Log

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

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location: CRUMPSALL		Level:	Scale 1:25
Client: WAIN HOMES		Dates: 10/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.20			MADE GROUND: Brown clayey slightly sandy TOPSOIL. Sand is fine to medium.
		0.50	ES					MADE GROUND: Firm mottled dark brown orange grey slightly gravelly sandy CLAY. Gravel is subrounded to angular fine to medium of sandstone. Sand is fine to medium. (REWORKED).
		0.80	D					
		1.00	ES					
		1.20 1.20	D	N=1 (0,0/0,0,0,1)	1.20			Soft light brown silty CLAY.
					1.60			Firm slightly gravelly silty CLAY. Gravel is subangular to rounded fine to medium of siltstone.
		2.00 2.00	D	N=14 (2,2/3,3,4,4)	2.00			Medium dense light brown silty fine to coarse SAND.
		3.00 3.00	D	N=3 (1,1/1,1,1,0)				*Becoming loose from 3.00m begl.*
		4.00 4.00	D	N=8 (1,1/2,2,2,2)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS02** Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 10/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Dark brown slightly sandy TOPSOIL. Sand is fine to medium.
		0.50	ES					MADE GROUND: Firm mottled orangey slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse of sandstone. Sand is fine to medium. (REWORKED).
		0.80	D					
		1.00	ES					
		1.20 1.20	D	N=4 (1,1/1,1,1,1)	1.20			Loose light brown fine to coarse SAND.
		2.00 2.00	D	N=10 (1,2/2,2,3,3)				*Medium dense from 2.00m begl.*
		3.00 3.00	D	N=7 (1,1/1,2,2,2)				*Becoming loose at 3.00m begl.*
		4.00 4.00	D	N=10 (1,1/2,2,3,3)	4.00			*Medium dense at 4.00m begl.* End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Monitoring standpipe installed to 4m begl (1.00m plain, 3.00m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS03**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 10/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Dark brown slightly sandy clayey TOPSOIL. Sand is fine to medium.
		0.50 0.50	D ES					MADE GROUND: Brown slightly gravelly CLAY with pockets of silty sand. Gravel is subangular to rounded fine to medium of sandstone. (REWORKED)
		1.00	ES		1.10			
		1.20 1.30	D	N=3 (0,0/1,1,0,1)				Loose brown silty fine to coarse SAND.
		2.00 2.00	D	N=7 (1,1/2,2,1,2)				
		3.00 3.00	D	N=10 (1,1/2,2,3,3)				*Medium dense from 3.00m begl.*
		4.00 4.00	D	N=11 (1,2/2,3,3,3)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS04** Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 10/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.30			MADE GROUND: Dark brown clayey slightly sandy TOPSOIL. Sand is fine to medium.	
		0.50	ES		0.50			MADE GROUND: Mottled orange grey fine to coarse SAND. (REWORKED).	
		0.90	D					MADE GROUND: Blackish slightly clayey slightly gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium of red sandstone and shale. (REWORKED).	
		1.00	ES		1.00				1
		1.20 1.20	D	N=5 (0,1/1,2,1,1)				Loose light orange brown clayey fine to medium SAND.	
		2.00 2.00	D	N=11 (1,2/2,3,3,3)	2.00			Medium dense brown silty fine to coarse SAND.	2
		3.00 3.00	D	N=12 (1,2/3,3,3,3)					3
		4.00 4.00	D	N=11 (1,1/2,3,3,3)	4.00			End of borehole at 4.00 m	4
									5

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS05**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 10/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					MADE GROUND: Dark brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium of limestone and brick.
		0.50	ES		0.50			MADE GROUND: Firm mottled brown orange slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of brick and limestone.
		0.80	D					
		1.00	ES		1.00			MADE GROUND: Firm orangey brown slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of limestone.
		1.20 1.20	D	N=14 (0,1/1,1,1,11)				
		2.00 2.00	D	N=0 (0,0/0,0,0,0)	2.00			MADE GROUND: Soft dark brown grey slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium of shale. (REWORKED).
					2.40			Loose to medium dense brown slightly gravelly SAND. Gravel is subangular to subrounded fine to medium of sandstone.
		3.00 3.00	D	N=7 (1,1/2,2,1,2)				
		4.00 4.00	D	N=11 (1,2/2,3,3,3)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Monitoring standpipe installed to 4m begl (1.00m plain, 3.00m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS06**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
		0.50	ES					MADE GROUND: Dark brown slightly gravelly fine to coarse SAND with rare pockets of clay. Gravel is subangular to subrounded fine to coarse of brick and sandstone. (REWORKED).
		0.60	D					
		1.00	ES					
		1.20 1.20	D	N=6 (1,1/2,2,1,1)				
					1.70			Loose brown slightly clayey fine to medium SAND.
		2.00 2.00	D	N=8 (1,2/2,2,2,2)				
		3.00 3.00	D	N=11 (1,2/2,3,3,3)				*Medium dense from 3.00m begl.*
		4.00 4.00	D	N=13 (1,2/3,3,3,4)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS07**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					MADE GROUND: Dark brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium of brick.
		0.40	D					
		0.50	ES		0.50			MADE GROUND: Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of brick. Sand is fine to coarse. (REWORKED).
		1.00	ES					
		1.20	D					
		1.20		N=8 (1,2/2,3,2,1)	1.30			MADE GROUND: Light brown clayey slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of brick and sandstone. (REWORKED).
		2.00	D		2.00			Medium dense brown silty fine to coarse SAND.
		2.00		N=10 (1,2/2,3,3,2)				
		3.00	D					*Loose at 3.00m begl.*
		3.00		N=8 (1,1/1,2,3,2)				
		4.00	D		4.00			End of borehole at 4.00 m
		4.00		N=11 (1,2/2,3,3,3)				

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Monitoring standpipe installed to 4m begl (1.00m plain, 3.00m slotted).

GROUNDTECH CONSULTING

Borehole Log

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

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
		0.50	ES					MADE GROUND: Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone. Sand is fine to coarse. (REWORKED).
		0.60	D					
		1.00	ES					
		1.20	D		1.20			
		1.20		N=4 (1,1/1,1,1,1)				Loose brown silty fine to coarse SAND.
		2.00	D					*Medium dense at 2.0m begl.*
		2.00		N=11 (1,2/3,3,3,2)				
		3.00	D					
		3.00		N=8 (2,2/2,2,2,2)				
		4.00	D		4.00			
		4.00		N=12 (1,2/2,3,3,4)				End of borehole at 4.00 m

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

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

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.20			Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
		0.50	ES					Loose brown clayey silty fine to coarse SAND.
		0.60	D					
		1.00	ES					
		1.20	D					
		1.20		N=3 (0,0/0,1,1,1)				
		2.00	D					
		2.00		N=6 (0,1/1,2,2,1)				
		3.00	D					
		3.00		N=9 (1,1/2,2,2,3)				
		4.00	D		4.00			*Medium dense from 4.00m begl.*
		4.00		N=12 (1,2/3,3,3,3)				End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Monitoring standpipe installed to 4m begl (1.00m plain, 3.00m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS10**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
		0.50	ES					MADE GROUND: Firm brown slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse of sandstone. Sand is fine to coarse.
		0.70	D					
		1.00	ES		1.00			Loose brown silty gravelly fine to coarse SAND. Gravel is angular to subangular fine to coarse of shale.
		1.20 1.20	D	N=2 (0,0/0,1,1,0)				
		2.00 2.00	D	N=6 (0,1/1,2,2,1)				
		3.00 3.00	D	N=9 (1,2/2,2,2,3)				
		4.00 4.00	D	N=10 (1,1/2,2,3,3)	4.00			*Medium dense from 4.00m begl.* End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

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

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
		0.50	ES					Loose brown clayey fine to coarse SAND.
		0.80	D					
		1.00	ES					
		1.20 1.20	D	N=2 (1,1/0,0,1,1)				
		2.00 2.00	D	N=5 (1,0/1,1,1,2)				
		3.00 3.00	D	N=10 (1,2/2,2,3,3)				*Medium dense from 3.00m begl.*
		4.00 4.00	D	N=13 (1,2/3,3,3,4)	4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS12**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type WS
Location:	CRUMPSALL		Level:	Scale 1:25
Client:	WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.20			Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
		0.50	ES					Brown clayey silty fine to coarse SAND.
		0.70	D					
		1.00	ES					
		1.20	D					
		1.20		N=4 (1,1/1,1,1,1)				*Loose at 1.20m begl.*
					1.70			Soft brown CLAY.
					1.80			Loose brown silty fine to coarse SAND.
		2.00	D					
		2.00		N=6 (1,1/1,2,1,2)				
		3.00	D					
		3.00		N=8 (1,2/2,2,2,2)				
		4.00	D		4.00			*Medium dense at 4.00m begl.*
		4.00		N=11 (2,2/2,3,3,3)				End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 4m begl. 5. Monitoring standpipe installed to 4m begl (1.00m plain, 3.00m slotted).

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No
SuDS01
Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): Depth 2.10 — 2 × 0.6	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					MADE GROUND: Dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of brick, concrete and ceramic.
	0.50	D					
	0.80	ES					
	1.10	D		0.90			Red brown slightly gravelly fine to coarse SAND with clay lenses. Gravel is subrounded to rounded fine to medium of sandstone.
	1.10	ES		2.10			End of pit at 2.10 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Infiltration test undertaken at 2.00m begl. 4. Trial Pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No
SuDS02
Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): 3.6 × 0.6, Depth 3.00	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
				0.40			MADE GROUND: Firm grey mottled orange sandy CLAY. Sand is fine to coarse. (REWORKED).
	0.50	ES					MADE GROUND: Orange brown silty fine to coarse SAND. (REWORKED).
				0.80			MADE GROUND: Firm reddish brown gravelly CLAY. Gravel is rounded to subangular fine to medium of shale, brick and sandstone. (REWORKED)
	1.00	D					
	1.00	ES		1.10			Light orange brown clayey fine to coarse SAND.
	2.00	D					
	3.00	D		3.00			End of pit at 3.00 m

1
2
3
4
5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Infiltration test undertaken at 3.00m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP01**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:
Location:	CRUMPSALL	Dimensions (m): Depth 4.00	2 / 0.6
Client:	WAIN HOMES		Scale 1:25 / Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30			MADE GROUND: Dark brown sandy clayey TOPSOIL. Sand is fine to coarse. Sand is fine to medium.
	0.50	ES		0.80			MADE GROUND: Firm brown sandy slightly gravelly CLAY. Gravel is rounded to angular fine to medium of sandstone.
	1.00	D					Firm light brown slightly sandy slightly gravelly CLAY. Gravel is subrounded fine to coarse of sandstone. Sand is fine to coarse.
	1.00	ES					
	2.00	D		2.20			Light brown fine to coarse SAND with bands of clay.
	3.00	D					
				4.00			End of pit at 4.00 m

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 4.00m begl. 4. Trial pit backfilled with arisings.

Stability: Unstable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP02**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location:	CRUMPSALL	Dimensions (m): Depth 4.00	2 / 0.6	Scale 1:25
Client:	WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.40			MADE GROUND: Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
	0.50	ES					MADE GROUND: Firm dark brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of brick and sandstone. Sand is fine to coarse. (REWORKED).
	1.00	D		1.00			Firm brown slightly gravelly sandy CLAY. Gravel is angular to rounded fine to medium of sandstone. Sand is fine to medium.
	1.00	ES					
	2.00	D		2.20			Light brown fine to coarse SAND with clay lenses.
	3.00	D					
				4.00			End of pit at 4.00 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 4.00m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No
TP03
Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): Depth 3.90 — 2 × 0.6	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30			MADE GROUND: Dark brown slightly gravelly clayey TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
	0.50	ES		0.70			MADE GROUND: Dark brown slightly gravely fine to medium SAND. Gravel is angular to subrounded fine to medium of brick.
	1.00	D		1.00			MADE GROUND: Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of brick, sandstone and shale. Sand is fine to coarse. (REWORKED).
	1.00	ES					Firm reddish brown sandy CLAY. Sand is fine to coarse.
	2.00	D		2.20			Light brown fine to coarse SAND.
	3.00	D		3.90			End of pit at 3.90 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered.3. Trial pit excavated to 3.90m begl. 4. Trial pit backfilled with arisings.

Stability: Unstable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP04**

Sheet 1 of 1

Project Name:	MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location:	CRUMPSALL	Dimensions (m): Depth 3.50	2 / 0.6	Scale 1:25
Client:	WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					MADE GROUND: Dark brown slightly gravelly clayey TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
	0.50	ES		0.40			Brown clayey fine to coarse SAND.
	1.00 1.00	D ES		1.00			Dark brown grey fine to coarse SAND.
	2.00	D		2.00			Orange brown fine to coarse SAND.
	3.00	D					
				3.50			End of pit at 3.50 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered.3. Trial pit excavated to 3.50m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): Depth 4.00 — 2 × 0.6	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30			MADE GROUND: Grey sandy angular to subangular fine to coarse GRAVEL of limestone and brick with low cobble content of brick. Sand is fine to coarse.
	0.50	ES		0.60			MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
	1.00 1.00	D ES		1.50			MADE GROUND: Dark brown grey slightly gravelly fine to coarse SAND. Gravel is subangular fine to coarse of brick, ceramic and sandstone. (REWORKED).
	2.00	D		2.00			Orange clayey fine to coarse SAND with bands of clay.
	3.00	D		4.00			Orange silty fine to coarse SAND.
							End of pit at 4.00 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 4.00m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP06**

Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): Depth 4.50 — 2 × 0.6	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.40			MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
	0.50	ES					MADE GROUND: Dark brown fine to coarse SAND. (REWORKED).
	1.00	D					
	1.00	ES					
				1.50			Firm orange sandy CLAY. Sand is fine to coarse.
	2.00	D		2.00			Firm grey mottled orange sandy CLAY. Sand is fine to coarse.
	3.00	D					
				4.50			End of pit at 4.50 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 4.50m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP07**

Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): Depth 2.90 — 2 × 0.6	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30			MADE GROUND: Dark brown sandy clayey TOPSOIL. Sand is fine to coarse.
	0.50	ES					MADE GROUND: Dark brown fine to medium SAND. (REWORKED).
	1.00	D		0.80			Orange silty fine to coarse SAND.
	1.00	ES					
	2.00	D					
	2.90	D		2.90			End of pit at 2.90 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 2.90m begl. 4. Trial pit backfilled with arisings.

Stability: Unstable

GROUNDTECH CONSULTING

Trial Pit Log

Trialpit No **TP08**

Sheet 1 of 1

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: - Level:	Date
Location: CRUMPSALL		Dimensions (m): 2 × 0.6, Depth 3.90	Scale 1:25
Client: WAIN HOMES			Logged MJ

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					MADE GROUND: Dark brown clayey slightly gravelly TOPSOIL. Gravel is angular to subrounded fine to coarse of brick and concrete.
	0.50	ES		0.40			Firm grey mottled orange sandy CLAY. Sand is fine to coarse.
	0.80	D					
	1.00	ES		1.00			Orange silty fine to coarse SAND.
	2.00	D		2.00			Orange silty clayey fine to coarse SAND.
	3.00	D					
				3.90			End of pit at 3.90 m

1 2 3 4 5

Remarks: 1. Location cleared of services using CAT scanner. 2. No groundwater encountered. 3. Trial pit excavated to 3.90m begl. 4. Trial pit backfilled with arisings.

Stability: Stable

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH01**

Sheet 1 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 08/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of brick and sandsotne.
		0.20	ES					
		0.50	ES					
		0.50 - 1.20	B					
		1.00	ES					
		1.20		N=8 (1,1/2,2,2,2)	1.20			
		1.20 - 1.65	B					MADE GROUND: Dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of shale and brick. (REWORKED).
		1.20 - 1.65	D					
		2.00		N=9 (1,2/1,2,3,3)				
		2.00 - 2.45	B					
		2.00 - 2.45	D					
		3.00		N=10 (1,1/1,2,3,4)	2.90			Medium dense brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subrounded fine to coarse of sandstone and quartzite.
		3.00 - 3.45	B					
		3.00 - 3.45	D					
		4.00 - 4.45	U		4.00			Firm medium strength reddish brown silty gravelly CLAY. Gravel is angular to subrounded fine to coarse of siltstone.
		4.50	D					
		5.00		N=17 (2,3/3,4,5,5)				
		5.00 - 5.45	B					
		5.00 - 5.45	D					
		6.00		N=22 (3,4/4,5,6,7)				
		6.00 - 6.45	D					
		7.50		N=17 (2,3/4,4,4,5)	7.50			Medium dense dark brown clayey slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to medium of siltstone.
		7.50 - 7.95	B					
		7.50 - 7.95	D					
		9.00		N=16 (1,2/2,3,4,7)				
		9.00 - 9.45	D					

Continued on next sheet

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.00m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH01** Sheet 2 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 08/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.50		N=20 (2,2/3,5,6,6)				
		10.50 - 10.95	B					
		10.50 - 10.95	D					
		12.00		N=25 (4,5/5,11,5,4)				
		12.00 - 12.45	D					
		13.50		N=24 (3,4/5,5,7,7)	13.50			Firm slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone.
		13.50 - 13.95	B					
		13.50 - 13.95	D					
		13.50 - 13.95	U					
		15.00 - 15.45	U					
		15.50		N=30 (4,5/6,7,7,10)	15.50			Medium dense orange brown silty fine to medium SAND.
		15.50 - 16.00	D					
					16.00			End of borehole at 16.00 m

11 12 13 14 15 16 17 18 19 20

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.00m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH02**

Sheet 1 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 09/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.35			MADE GROUND: Dark brown slightly clayey sandy TOPSOIL. Sand is fine to medium.
		0.20	ES					
		0.50	ES					MADE GROUND: Firm medium strength brown mottled grey slightly sandy CLAY. Sand is fine to coarse. (REWORKED).
		0.50 - 1.20	B					
		1.00	ES					
		1.20 - 1.65	U					
		1.70	D					
		2.00		N=12 (2,2/2,3,3,4)	2.00			Medium dense brown slightly gravelly fine to coarse SAND with pockets of clay. Gravel is subangular to subrounded fine to coarse of siltstone.
		2.00 - 2.45	B					
		2.00 - 2.45	D					
		3.00		N=13 (2,2/3,2,4,4)				
		3.00 - 3.45	D					
		4.00		N=13 (2,3/3,3,3,4)				
		4.00 - 4.45	B					
		4.00 - 4.45	D					
		5.00		N=12 (1,2/2,2,4,4)				
		5.00 - 5.45	D					
		6.50		N=15 (2,2/3,3,3,6)				
		6.50 - 6.95	B					
		6.50 - 6.95	D					
		8.00		N=23 (3,4/5,5,6,7)				
		8.00 - 8.45	B					
		8.00 - 8.45	D					
					8.49			Light brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of siltstone. Sand is fine to medium.
		9.50		N=22 (3,3/5,5,6,6)				
		9.50 - 9.95	D					

Continued on next sheet

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.45m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH02**

Sheet 2 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 09/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.00 - 11.45	U					
		11.50	D					
		12.50		N=21 (3,4/4,5,6,6)	12.50			
		12.50 - 12.95	B					Firm dark brown slightly gravelly sandy CLAY. Gravel is subangular to rounded fine to medium of sandstone. Sand is fine to medium.
		12.50 - 12.95	D					
		14.00 - 14.45	U					
		14.50	D					
		15.00		N=21 (3,4/4,5,6,6)				
		15.00 - 15.45	B					
		15.00 - 15.45	D					
		16.00		N=22 (2,3/4,6,6,6)				
		16.00 - 16.45	D					
					16.45			End of borehole at 16.45 m

11 12 13 14 15 16 17 18 19 20

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.45m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH03**

Sheet 1 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					MADE GROUND: Dark brown clayey sandy TOPSOIL. Sand is fine to medium.
		0.20	ES		0.40			
		0.50	ES					MADE GROUND: Brown clayey fine to coarse SAND. (REWORKED).
		0.50 - 1.20	B					
		1.00	ES					
		1.20		N=1 (1,0/0,0,0,1)	1.20			MADE GROUND: Dark brown slightly gravelly clayey SAND with pockets of clay. Gravel is angular to subrounded fine to coarse of sandstone, ceramic and brick. (REWORKED).
		1.20 - 1.65	B					
		1.20 - 1.65	D					
		2.00		N=2 (1,0/0,1,0,1)				
		2.00 - 2.45	B					
		2.00 - 2.45	D					
		3.00		N=3 (1,0/1,0,1,1)	2.90			Loose brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subrounded fine to coarse of sandstone and quartzite.
		3.00 - 3.45	B					
		3.00 - 3.45	D					
		4.00		N=7 (1,2/1,2,1,3)	4.00			Soft brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of sandstone. Sand is fine to medium.
		4.00 - 4.45	B					
		4.00 - 4.45	D		4.45			Loose dark brown clayey silty fine to coarse SAND.
		5.00		N=9 (1,1/1,2,3,3)				
		5.00 - 5.45	B					
		5.00 - 5.45	D					
		6.50		N=15 (2,3/3,4,3,5)				*Medium dense from 6.50m begl.*
		6.50 - 6.95	D					
		8.00		N=12 (2,2/2,3,3,4)				
		8.00 - 8.45	B					
		8.00 - 8.45	D					
		9.50		N=20 (2,3/4,5,5,6)	9.50			Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone. Sand is fine to medium.
		9.50 - 9.95	B					
		9.50 - 9.95	D					

Continued on next sheet

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.00m begl. 5. Borehole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **BH03** Sheet 2 of 2

Project Name: MIDDLETON ROAD, CRUMPSALL	Project No. GRO-26222	Co-ords: -	Hole Type CP
Location: CRUMPSALL		Level:	Scale 1:50
Client: WAIN HOMES		Dates: 11/06/2026 -	Logged By MJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		11.00 - 11.45	U					
		11.50	D					
		12.50		N=18 (2,3/3,4,5,6)	12.50			
		12.50 - 12.95	B					Medium dense brown slightly gravelly silty clayey SAND with pockets of clay. Gravel is angular to subrounded fine to medium of sandstone.
		12.50 - 12.95	D					
		14.00		N=28 (4,5/6,6,6,10)				
		14.00 - 14.45	D					
		15.50		N=27 (3,4/4,6,6,11)	15.50			Firm greyish brown silty CLAY.
		15.50 - 15.95	D					
					16.00			End of borehole at 16.00 m

11 12 13 14 15 16 17 18 19 20

Remarks

1. Location cleared of services by handheld CAT scanner. 2. Hand excavated inspection pit to 1.20m begl. 3. No groundwater encountered. 4. Borehole terminated at 16.00m begl. 5. Borehole backfilled with arisings.

APPENDIX 4 – Geo-Environmental Testing Results

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

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Michael Houghton
Date :	16th July, 2026
Your reference :	GRO-26222
Our reference :	Test Report 26/9431 Batch 1
Location :	Middleton Road Crmpsall
Date samples received :	16th June, 2026
Status :	Final Report
Issue :	202607161641

One hundred and eighty eight samples were received for analysis on 16th June, 2026 of which thirty 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 67.549 kg of CO2

Scope 1&2&3 emissions - 159.636 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

Report : Solid

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

EMT Sample No.	7	23	27-32	63-65	73	75-76	82-83	92-93,146	103-105	110-111	LOD/LOR	Units	Method No.
Sample ID	BH1	BH2	BH03	TP01	TP01	TP02	TP03	TP04	TP05	TP06			
Depth	6.00-6.45	14.50	0.20	0.20	2.00	0.20	0.20	0.20	0.50	0.50			
COC No / misc													
Containers	T	T	V J T	V J T	T	V J	V J	V J T	V J T	J T			
Sample Date	<>	10/06/2026	11/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	12/06/2026	12/06/2026	12/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
Arsenic #	-	-	8.6	12.5	-	8.2	8.3	8.9	10.6	11.3	<0.5	mg/kg	TM30/PM15
Cadmium #	-	-	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM30/PM15
Chromium #	-	-	59.2	38.3	-	34.2	37.8	36.1	34.7	36.1	<0.5	mg/kg	TM30/PM15
Copper #	-	-	18	25	-	27	23	34	30	33	<1	mg/kg	TM30/PM15
Lead #	-	-	48	80	-	51	57	36	54	80	<5	mg/kg	TM30/PM15
Mercury #	-	-	0.1	0.5	-	<0.1	<0.1	0.1	0.6	0.7	<0.1	mg/kg	TM30/PM15
Nickel #	-	-	9.2	16.8	-	11.9	11.1	14.2	15.7	15.4	<0.7	mg/kg	TM30/PM15
Selenium #	-	-	<1	<1	-	<1	1	<1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	-	-	32	59	-	38	41	43	64	90	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	-	-	0.05	<0.04+	-	<0.04+	<0.04+	<0.04	<0.04	0.27+	<0.04	mg/kg	TM4/PM8
Acenaphthylene	-	-	0.09	0.05+	-	0.06+	0.05+	<0.03	0.04	0.13+	<0.03	mg/kg	TM4/PM8
Acenaphthene #	-	-	0.29	<0.05+	-	0.06+	<0.05+	<0.05	<0.05	0.22+	<0.05	mg/kg	TM4/PM8
Fluorene #	-	-	0.25	<0.04+	-	0.06+	<0.04+	<0.04	<0.04	0.17+	<0.04	mg/kg	TM4/PM8
Phenanthrene #	-	-	3.08	0.57+	-	0.76+	0.44+	0.31	0.42	2.20+	<0.03	mg/kg	TM4/PM8
Anthracene #	-	-	0.60	0.14+	-	0.20+	0.12+	0.08	0.12	0.70+	<0.04	mg/kg	TM4/PM8
Fluoranthene #	-	-	3.19	1.02+	-	1.22+	0.74+	0.61	0.69	4.17+	<0.03	mg/kg	TM4/PM8
Pyrene #	-	-	3.25	1.02+	-	1.25+	0.78+	0.61	0.64	3.77+	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	-	-	1.35	0.50+	-	0.64+	0.40+	0.32	0.38	2.39+	<0.06	mg/kg	TM4/PM8
Chrysene #	-	-	1.85	0.72+	-	0.75+	0.47+	0.59	0.33	2.52+	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	-	-	2.03	0.85+	-	1.17+	0.63+	0.56	0.66	5.11+	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	-	-	1.48	0.64+	-	0.87+	0.49+	0.40	0.49	3.79+	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	-	-	0.63	0.35+	-	0.41+	0.26+	0.24	0.27	2.54+	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	-	-	0.19	0.08+	-	0.10+	0.06+	0.06	0.07	0.47+	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	-	-	0.71	0.30+	-	0.36+	0.22+	0.22	0.26	2.38+	<0.04	mg/kg	TM4/PM8
PAH 16 Total	-	-	19.0	6.2+	-	7.9+	4.7+	4.0	4.4	30.8+	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	-	-	1.46	0.61	-	0.84	0.45	0.40	0.48	3.68	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	-	-	0.57	0.24	-	0.33	0.18	0.16	0.18	1.43	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	-	-	113	98+	-	93+	94+	106	100	101+	<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<0.2	-	-	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<4	-	-	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<7	-	-	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<7	-	-	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	-	-	-	-	-	-	-	<19	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

Report : Solid

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

EMT Sample No.	7	23	27-32	63-65	73	75-76	82-83	92-93,146	103-105	110-111	LOD/LOR	Units	Method No.
Sample ID	BH1	BH2	BH03	TP01	TP01	TP02	TP03	TP04	TP05	TP06			
Depth	6.00-6.45	14.50	0.20	0.20	2.00	0.20	0.20	0.20	0.50	0.50			
COC No / misc													
Containers	T	T	V J T	V J T	T	V J	V J	V J T	V J T	J T			
Sample Date	<>	10/06/2026	11/06/2026	08/06/2026	08/06/2026	08/06/2026	08/06/2026	12/06/2026	12/06/2026	12/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1	-	-	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<0.2	-	-	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<4	-	-	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<7	-	-	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<7	-	-	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	-	-	-	-	-	-	-	<19	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	-	-	-	-	-	-	-	<38	-	-	<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 #	-	-	-	-	-	-	-	<5	-	-	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	-	<5	-	-	<5	ug/kg	TM36/PM12
Natural Moisture Content	-	-	33.3	28.7	-	16.6	21.5	19.7	22.5	16.6	<0.1	%	PM4/PM0
Hexavalent Chromium #	-	-	<6.0 $_{AA}$	NDP	-	NDP	NDP	NDP	NDP	NDP	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0260	0.0631	0.0047	0.0053	0.0079	0.0040	0.0116	0.1138	0.1747	0.3638	<0.0015	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext)	-	-	-	-	-	-	-	-	-	-	<0.0015	g/l	TM38/PM60
Organic Matter	-	-	3.9	4.9	-	3.4	4.6	4.4	3.2	7.7	<0.2	%	TM21/PM24
pH #	5.74	8.93	5.21	5.42	6.34	4.95	5.45	7.89	7.68	7.92	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

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.	115-116	119-121	129	142	143	166-168	179	181-183	196-198	213-215	LOD/LOR	Units	Method No.
Sample ID	TP06	TP07	TP07	TP08	TP02	WS02	WS2	WS03	WS04	WS05			
Depth	2.00	0.20	3.00	3.00	3.00	0.20	3.00-3.45	0.20	0.20	0.50			
COC No / misc													
Containers	T	V J T	T	T	T	V J T	T	V J T	V J T	V J T			
Sample Date	11/06/2026	12/06/2026	12/06/2026	12/06/2026	08/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
Arsenic #	-	12.2	-	-	-	11.8	-	5.0	11.0	NDP	<0.5	mg/kg	TM30/PM15
Cadmium #	-	<0.3	-	-	-	<0.3	-	<0.3	<0.3	NDP	<0.3	mg/kg	TM30/PM15
Chromium #	-	36.8	-	-	-	19.5	-	40.8	35.0	NDP	<0.5	mg/kg	TM30/PM15
Copper #	-	26	-	-	-	32	-	18	27	NDP	<1	mg/kg	TM30/PM15
Lead #	-	84	-	-	-	102	-	18	60	NDP	<5	mg/kg	TM30/PM15
Mercury #	-	0.5	-	-	-	0.6	-	<0.1	0.1	NDP	<0.1	mg/kg	TM30/PM15
Nickel #	-	11.1	-	-	-	13.7	-	15.2	11.9	NDP	<0.7	mg/kg	TM30/PM15
Selenium #	-	<1	-	-	-	<1	-	<1	<1	NDP	<1	mg/kg	TM30/PM15
Zinc #	-	51	-	-	-	68	-	55	42	NDP	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	-	<0.04+	-	-	-	<0.04	-	<0.04+	<0.04+	0.06	<0.04	mg/kg	TM4/PM8
Acenaphthylene	-	0.05+	-	-	-	0.04	-	<0.03+	0.06+	0.04	<0.03	mg/kg	TM4/PM8
Acenaphthene #	-	<0.05+	-	-	-	0.10	-	<0.05+	<0.05+	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	-	<0.04+	-	-	-	0.07	-	<0.04+	0.05+	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	-	0.31+	-	-	-	0.89	-	<0.03+	0.63+	0.48	<0.03	mg/kg	TM4/PM8
Anthracene #	-	0.09+	-	-	-	0.21	-	<0.04+	0.15+	0.13	<0.04	mg/kg	TM4/PM8
Fluoranthene #	-	0.65+	-	-	-	1.43	-	<0.03+	1.02+	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	-	0.66+	-	-	-	1.43	-	<0.03+	1.07+	0.81	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	-	0.34+	-	-	-	0.69	-	<0.06+	0.50+	0.47	<0.06	mg/kg	TM4/PM8
Chrysene #	-	0.38+	-	-	-	0.92	-	<0.02+	0.62+	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	-	0.61+	-	-	-	1.15	-	<0.07+	0.83+	0.80	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	-	0.44+	-	-	-	0.82	-	<0.04+	0.61+	0.51	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	-	0.25+	-	-	-	0.42	-	<0.04+	0.34+	0.28	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	-	0.05+	-	-	-	0.09	-	<0.04+	0.08+	0.07	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	-	0.25+	-	-	-	0.42	-	<0.04+	0.31+	0.27	<0.04	mg/kg	TM4/PM8
PAH 16 Total	-	4.1+	-	-	-	8.7	-	<0.6+	6.3+	3.9	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	-	0.44	-	-	-	0.83	-	<0.05	0.60	0.58	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	-	0.17	-	-	-	0.32	-	<0.02	0.23	0.22	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	-	100+	-	-	-	110	-	93+	102+	100	<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	-	-	-	-	-	-	-	<0.1SV	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	-	-	-	-	-	-	-	<0.1SV	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	-	-	-	-	-	-	-	-	-	<0.1SV	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	-	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	-	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	-	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	-	-	20	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	-	-	-	-	-	-	-	-	-	20	<19	mg/kg	TM5/TM36/PM8/PM12/PM16

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

Report : Solid

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

EMT Sample No.	115-116	119-121	129	142	143	166-168	179	181-183	196-198	213-215	LOD/LOR	Units	Method No.
Sample ID	TP06	TP07	TP07	TP08	TP02	WS02	WS2	WS03	WS04	WS05			
Depth	2.00	0.20	3.00	3.00	3.00	0.20	3.00-3.45	0.20	0.20	0.50			
COC No / misc													
Containers	T	V J T	T	T	T	V J T	T	V J T	V J T	V J T			
Sample Date	11/06/2026	12/06/2026	12/06/2026	12/06/2026	08/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026	10/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	-	-	-	-	-	-	-	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	-	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	-	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	-	15	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	-	-	108	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	-	-	-	-	-	-	-	-	-	123	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	-	-	-	-	-	-	-	-	-	143	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	-	-	-	-	-	-	-	-	-	<5 SV	<5	ug/kg	TM36/PM12
Benzene #	-	-	-	-	-	-	-	-	-	<5 SV	<5	ug/kg	TM36/PM12
Toluene #	-	-	-	-	-	-	-	-	-	17 SV	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	-	-	-	-	-	-	-	<5 SV	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	-	-	-	-	-	-	-	<5 SV	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	-	-	-	<5 SV	<5	ug/kg	TM36/PM12
Natural Moisture Content	-	29.6	-	-	-	49.0	-	23.4	29.0	<0.1	<0.1	%	PM4/PM0
Hexavalent Chromium #	-	NDP	-	-	-	<0.3	-	NDP	NDP	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0124	0.0072	0.0056	0.0582	0.0041	<0.0015	0.0088	0.0069	0.0080	NDP	<0.0015	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext)	-	-	-	-	-	-	-	-	-	NDP	<0.0015	g/l	TM38/PM60
Organic Matter	-	4.4	-	-	-	6.4	-	1.9	4.5	NDP	<0.2	%	TM21/PM24
pH #	6.30	5.36	6.95	6.18	6.34	6.60	7.21	6.13	5.22	7.15	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

Report : Solid

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

EMT Sample No.	217-219	224-226	238-240	255-257	265-267	279-281	293-295	321-323	332	347	LOD/LOR	Units	Method No.
Sample ID	WS05	WS06	WS07	WS08	WS09	WS10	WS11	SUD02	SUD02	BH3			
Depth	1.00	0.20	0.20	0.50	0.20	0.20	0.20	0.20	3.00	8.00 - 8.45			
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	T	T			
Sample Date	10/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	12/06/2026	12/06/2026	09/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
Arsenic #	6.0	3.4	14.6	4.7	23.5	14.6	9.3	18.6	-	-	<0.5	mg/kg	TM30/PM15
Cadmium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	<0.3	mg/kg	TM30/PM15
Chromium #	40.7	33.9	31.0	39.9	71.5	34.7	50.9	36.5	-	-	<0.5	mg/kg	TM30/PM15
Copper #	24	8	27	16	29	21	16	64	-	-	<1	mg/kg	TM30/PM15
Lead #	12	18	46	9	264	112	49	186	-	-	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	0.6	<0.1	20.7	1.3	0.2	2.2	-	-	<0.1	mg/kg	TM30/PM15
Nickel #	47.5	5.1	12.6	22.0	15.7	10.7	11.0	23.3	-	-	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	mg/kg	TM30/PM15
Zinc #	62	12	48	54	72	56	46	75	-	-	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	0.05	<0.04	<0.04+	<0.04+	<0.04+	0.13	-	-	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	0.05	<0.03	<0.03+	0.06+	<0.03+	0.04	-	-	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05+	<0.05+	<0.05+	0.11	-	-	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04+	0.06+	<0.04+	0.06	-	-	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.06	0.54	<0.03	0.23+	0.77+	0.15+	0.79	-	-	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	0.18	<0.04	0.07+	0.18+	<0.04+	0.20	-	-	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.07	0.90	<0.03	0.58+	1.15+	0.35+	1.29	-	-	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.07	0.82	<0.03	0.56+	1.17+	0.35+	1.26	-	-	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.52	<0.06	0.30+	0.58+	0.19+	0.75	-	-	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.06	0.61	<0.02	0.37+	0.66+	0.32+	1.08	-	-	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.92	<0.07	0.51+	1.05+	0.36+	1.48	-	-	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.66	<0.04	0.38+	0.78+	0.24+	1.09	-	-	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.38	<0.04	0.23+	0.45+	0.14+	0.58	-	-	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	0.08	<0.04	<0.04+	0.10+	<0.04+	0.13	-	-	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.35	<0.04	0.20+	0.42+	0.15+	0.55	-	-	<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	6.1	<0.6	3.4+	7.4+	2.3+	9.5	-	-	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.66	<0.05	0.37	0.76	0.26	1.07	-	-	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.26	<0.02	0.14	0.29	0.10	0.41	-	-	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	109	109	108	108	104+	108+	103+	104	-	-	<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<0.2	-	-	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<4	-	-	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	<7	-	-	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	-	-	-	-	-	33	-	-	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	-	-	-	-	-	-	-	33	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton
EMT Job No: 26/9431

Report : Solid

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

EMT Sample No.	217-219	224-226	238-240	255-257	265-267	279-281	293-295	321-323	332	347	LOD/LOR	Units	Method No.
Sample ID	WS05	WS06	WS07	WS08	WS09	WS10	WS11	SUD02	SUD02	BH3			
Depth	1.00	0.20	0.20	0.50	0.20	0.20	0.20	0.20	3.00	8.00 - 8.45			
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	T	T			
Sample Date	10/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	11/06/2026	12/06/2026	12/06/2026	09/06/2026			
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	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	-	-	-	-	-	<0.1 SV	-	-	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<0.2	-	-	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	<4	-	-	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	20	-	-	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	-	-	-	-	-	105	-	-	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	-	-	-	-	-	-	-	125	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	-	-	-	-	-	-	-	158	-	-	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	-	-	-	-	-	-	-	<5 SV	-	-	<5	ug/kg	TM36/PM12
Benzene #	-	-	-	-	-	-	-	<5 SV	-	-	<5	ug/kg	TM36/PM12
Toluene #	-	-	-	-	-	-	-	14 SV	-	-	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	-	-	-	-	-	<5 SV	-	-	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	-	-	-	-	-	<5 SV	-	-	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	-	<5 SV	-	-	<5	ug/kg	TM36/PM12
Natural Moisture Content	14.8	18.8	20.1	19.3	42.4	29.7	28.1	26.8	-	-	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<6.0 AA	<0.3	<0.3	NDP	NDP	NDP	<0.3	-	-	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0023	0.0509	0.0887	0.0982	0.0176	0.0017	0.0116	0.0242	0.0166	0.0166	<0.0015	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext)	-	-	-	-	-	-	-	-	-	-	<0.0015	g/l	TM38/PM60
Organic Matter	1.2	1.8	4.9	0.8	7.6	3.3	2.8	19.7	-	-	<0.2	%	TM21/PM24
pH #	7.00	5.27	7.99	5.46	5.63	5.84	5.99	6.39	8.32	7.08	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited

Reference: GRO-26222

Location: Middleton Road Crmpsall

Contact: Michael Houghton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/9431	1	TP04	0.20	92-93,146	No interpretation possible
26/9431	1	WS05	0.50	213-215	PAHs & Trace of possible lubricating oil
26/9431	1	SUD02	0.20	321-323	PAHs

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9431	1	BH03	0.20	31	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with vegetation
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	TP01	0.20	65	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	NAD
					Mathew Day	30/06/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos Type**	NAD
					Mathew Day	30/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	TP02	0.20	76	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones and vegetation
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	TP03	0.20	83	Caoimhe Anders	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	30/06/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos Type**	NAD
26/9431	1	TP05	0.50	105	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	TP06	0.50	111	Caoimhe Anders	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	30/06/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos Type**	NAD
26/9431	1	TP07	0.20	121	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	NAD
					Mathew Day	30/06/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos Type**	NAD

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9431	1	TP07	0.20	121	Mathew Day	30/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	TP04	0.20	146	Mathew Day	02/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	02/07/2026	**Asbestos Fibres**	NAD
					Mathew Day	02/07/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	02/07/2026	**Asbestos ACM**	NAD
					Mathew Day	02/07/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	02/07/2026	**Asbestos Type**	NAD
					Mathew Day	02/07/2026	**Asbestos Type (2)**	NAD
26/9431	1	WS02	0.20	168	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones and vegetation
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	WS03	0.20	183	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	NAD
					Mathew Day	30/06/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos Type**	NAD
					Mathew Day	30/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	WS04	0.20	198	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	WS05	0.50	215	Caoimhe Anders	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	30/06/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos Type**	NAD
26/9431	1	WS05	1.00	219	Caoimhe Anders	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	30/06/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	30/06/2026	**Asbestos Type**	NAD
26/9431	1	WS06	0.20	226	Simon Postlewhite	27/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	27/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	WS07	0.20	240	Simon Postlewhite	27/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	27/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type (2)**	NAD

Client Name: Groundtech Consulting Limited
Reference: GRO-26222
Location: Middleton Road Crmpsall
Contact: Michael Houghton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9431	1	WS08	0.50	257	Simon Postlewhite	27/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	27/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	27/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	WS09	0.20	267	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	NAD
					Mathew Day	30/06/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos Type**	NAD
					Mathew Day	30/06/2026	**Asbestos Type (2)**	NAD
26/9431	1	WS10	0.20	281	Emily Smith	30/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones and vegetation
					Emily Smith	30/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	30/06/2026	**Asbestos ACM**	NAD
					Emily Smith	30/06/2026	**Asbestos Type**	NAD
26/9431	1	WS11	0.20	295	Emily Smith	26/06/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	26/06/2026	**Asbestos Fibres**	NAD
					Emily Smith	26/06/2026	**Asbestos ACM**	NAD
					Emily Smith	26/06/2026	**Asbestos Type**	NAD
26/9431	1	SUD02	0.20	323	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	Fibre Bundles
					Mathew Day	30/06/2026	**Asbestos ACM**	ACM Debris
					Mathew Day	30/06/2026	**Asbestos Type**	Chrysotile
					Anthony Carman	01/07/2026	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Anthony Carman	01/07/2026	**Total Detailed Gravimetric Quantification (% Asb)**	0.019 (mass %)
					Anthony Carman	01/07/2026	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.019 (mass %)
					Emily Smith	01/07/2026	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Emily Smith	01/07/2026	**Asbestos Gravimetric & PCOM Total**	0.019 (mass %)

Client Name: Groundtech Consulting Limited

Reference: GRO-26222

Location: Middleton Road Crmpsall

Contact: Michael Houghton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Method No.	NDP Reason
26/9431	1	TP01	0.20	63-65	TM38/PM20	Insufficient sample for test
26/9431	1	TP02	0.20	75-76	TM38/PM20	Insufficient sample for test
26/9431	1	TP03	0.20	82-83	TM38/PM20	Insufficient sample for test
26/9431	1	TP04	0.20	92-93,146	TM38/PM20	Sample volume not available
26/9431	1	TP05	0.50	103-105	TM38/PM20	Insufficient sample for test
26/9431	1	TP06	0.50	110-111	TM38/PM20	Insufficient sample for test
26/9431	1	TP07	0.20	119-121	TM38/PM20	Insufficient sample for test
26/9431	1	WS03	0.20	181-183	TM38/PM20	Insufficient sample for test
26/9431	1	WS04	0.20	196-198	TM38/PM20	Insufficient sample for test
26/9431	1	WS05	0.50	213-215	TM30/PM15	Oily sample unsuitable for this test
26/9431	1	WS05	0.50	213-215	TM21/PM24	Oily sample unsuitable for this test
26/9431	1	WS05	0.50	213-215	TM38/PM20	Oily sample unsuitable for this test
26/9431	1	WS05	0.50	213-215	TM38/PM60	Insufficient sample for test
26/9431	1	WS09	0.20	265-267	TM38/PM20	Insufficient sample for test
26/9431	1	WS10	0.20	279-281	TM38/PM20	Insufficient sample for test
26/9431	1	WS11	0.20	293-295	TM38/PM20	Insufficient sample for test

Client Name: Groundtech Consulting Limited

Reference: GRO-26222

Location: Middleton Road Crmpsall

Contact: Michael Houghton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
26/9431	1	BH1	6.00-6.45	7	All analyses	No sampling date given
26/9431	1	TP01	0.20	63-65	PAH	Sample holding time exceeded
26/9431	1	TP02	0.20	75-76	PAH	Sample holding time exceeded
26/9431	1	TP03	0.20	82-83	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.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

EMT Job No.: 26/9431

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 35°C ±5°C.

Where Mineral Oil 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 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.

Date

The dates of the performance of laboratory activity are available on request.

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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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.
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	x20 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: 26/9431

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 degrees Celsius or 105 degrees Celsius. 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
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.	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 degrees Celsius. 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.	Yes		AR	Yes

EMT Job No: 26/9431

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
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
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	PM60	As received solid samples are extracted with deionised water in a 2:1 ratio of water to solid.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
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
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes

APPENDIX 5 – Geotechnical Testing Results

LABORATORY REPORT

Contract Number: PSL26/5287

Report Date: 21 July 2026

Client's Reference: GRO-

Client Name: Groundtech Consulting
First Floor
Lloyd House
Orford Court
Greenfold Way
WN7 3XJ

For the attention of: Rebecca Rowlinson

Contract Title: Middleton Road, Crumpsall

Date Received: 24/06/2026
Date Commenced: 24/06/2026
Date Completed: 21/07/2026

Notes: Opinions and Interpretations are outside the UKAS Accreditation

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

Checked and Approved Signatories:

A Watkins (Managing Director)	R Berriman (Associate Director)	S Royle (Laboratory Manager)
L Knight (Assistant Laboratory Manager)	S Eyre (Senior Technician)	D Nicholson (Senior Technician)

5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH01		U	4.00		Firm brown sandy CLAY.
BH02		U	1.20		Firm brown slightly gravelly slightly sandy CLAY.
BH03		U	11.00		Stiff brown slightly gravelly CLAY.
TP03		D	1.00		Brown slightly clayey SAND.
WS01		D	1.20		Brown slightly sandy CLAY.
TP06		D	2.00		Brown sandy slightly gravelly CLAY.
TP08		D	0.80		Brown slightly sandy slightly gravelly CLAY.
TP02		D	1.00		Brown SAND.
TP01		D	1.00		Brown sandy slightly gravelly CLAY.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Middleton Road, Crumpsall

Contract No:

PSL26/5287

Client Ref:

SUMMARY OF SOIL CLASSIFICATION TESTS

BS 1377 - Part 2 : 2022 in accordance with BS EN ISO 17892 (as below)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Water Content %	Linear Shrinkage	Particle Density Mg/m^3	Liquid Limit %	Plastic Limit %	Plasticity Index %	Passing 0.425mm %	Remarks
TP03		D	1.00		20.1				NP			
WS01		D	1.20		25.9			38	18	20	100	Medium Plasticity CIM
TP06		D	2.00		20.5			31	17	14	98	Low Plasticity CIL
TP08		D	0.80		23.1			42	19	23	99	Medium Plasticity CIM
TP02		D	1.00		15.3				NP			
TP01		D	1.00		15.6			29	15	14	99	Low Plasticity CIL

Water Content - BS 1377 - Part 2 : 2022 : Clause 4 in accordance with BS EN ISO 17892 - 1 : 2014 + A1 : 2022
Linear Shrinkage - BS 1377 - Part 2 : 2022 : Clause 7
Particle Density (Gas Jar method) - BS 1377 - Part 2 : 2022 : Clause 9
Liquid, Plastic Limit & Plasticity Index - BS 1377 - Part 2 : 2022 : Clause 5 & 6 in accordance with BS EN ISO 17892 - 12 : 2018 + A2 : 2022

SYMBOLS : NP = Non Plastic

UKAS TESTING 4043

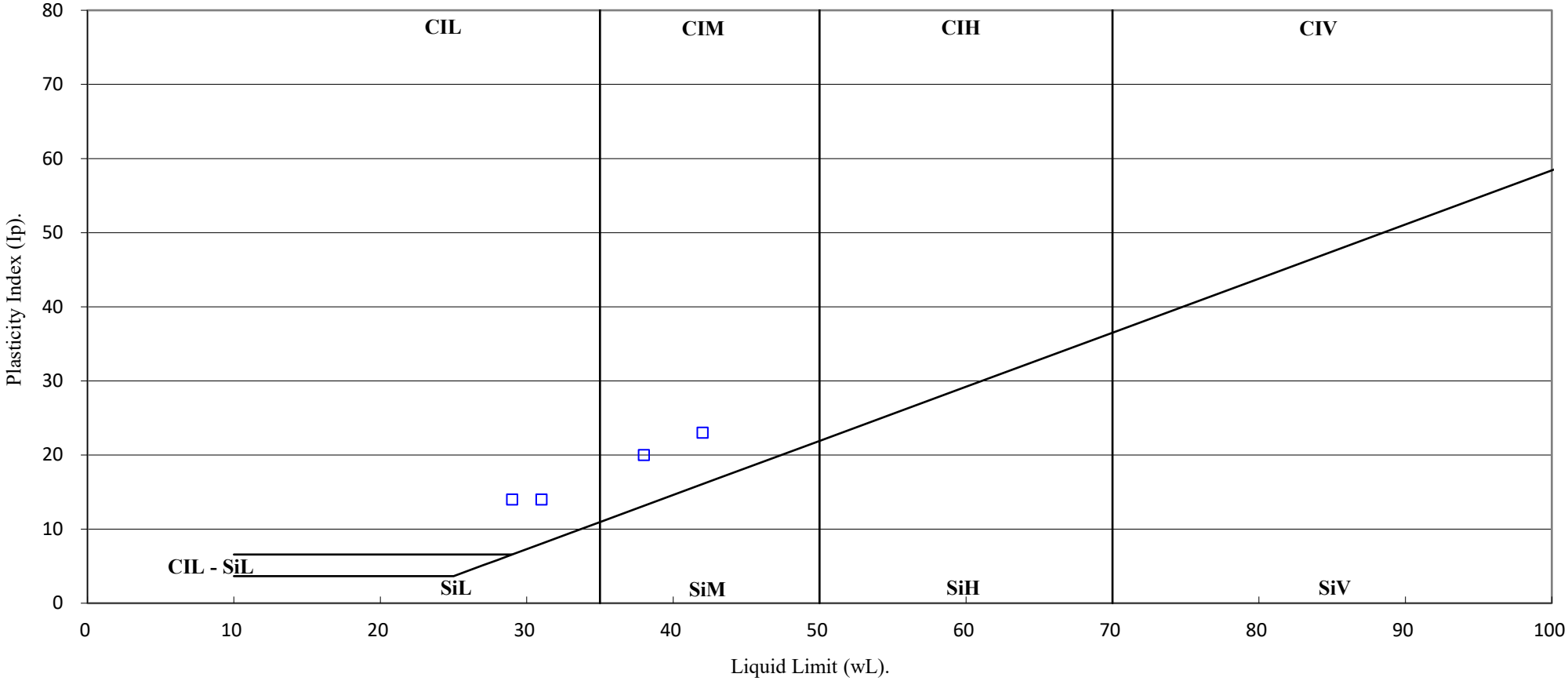
PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Middleton Road, Crumpsall

Contract No:
PSL26/5287
Client Ref:

PLASTICITY CHART

BS EN ISO 14688-2:2017 Clause 4.4



UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Middleton Road, Crumpsall**	**Contract No:**
		PSL26/5287
		Client Ref:

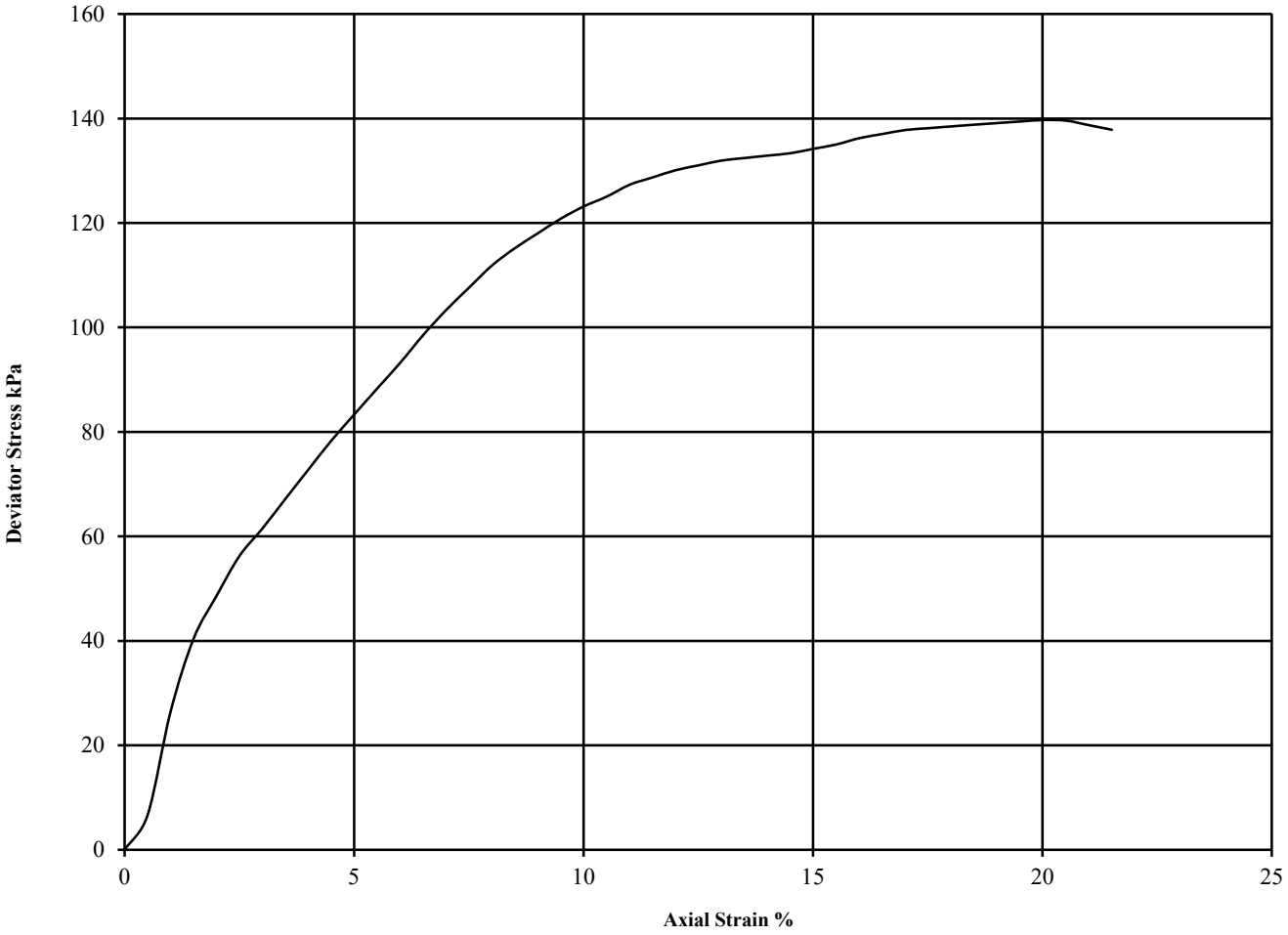
UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

BS 1377 - Part 2 : 2022 : Clause 28 in accordance with BS EN ISO 17892 - 8 : 2018

Hole Number: BH01 **Top Depth (m):** 4.00

Sample Number **Base Depth (m):**

Sample Type U



Diameter (mm):		102	Height (mm):		204	Test:	UU Single Stage		Remarks:
Specimen	Water Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)		Undisturbed Sample Sample taken from top of tube Rate of strain = 0.9 %/min See summary of soil descriptions
1	13.5	2.12	1.87	80	140	70	19.5	Plastic	

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Middleton Road, Crumpsall

Contract No: PSL26/5287

Client Ref:

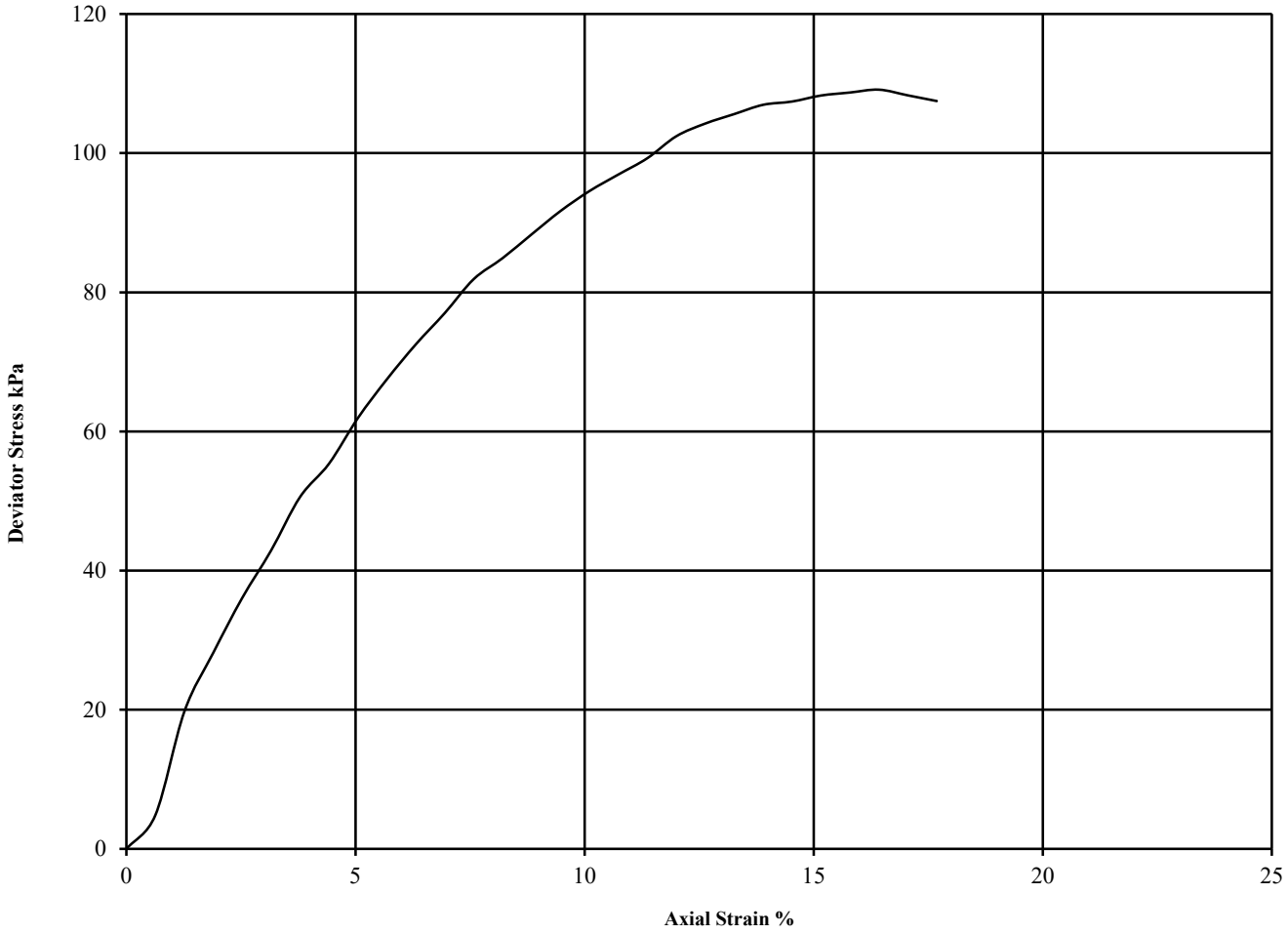
UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

BS 1377 - Part 2 : 2022 : Clause 28 in accordance with BS EN ISO 17892 - 8 : 2018

Hole Number: BH02 **Top Depth (m):** 1.20

Sample Number **Base Depth (m):**

Sample Type U



Diameter (mm):		101	Height (mm):		160	Test:	UU Single Stage		Remarks:
Specimen	Water Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)		Undisturbed Sample Sample taken from top of tube Rate of strain = 1.2 %/min See summary of soil descriptions
1	19.8	1.99	1.66	24	109	55	15.8	Plastic	

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Middleton Road, Crumpsall

Contract No: PSL26/5287

Client Ref:

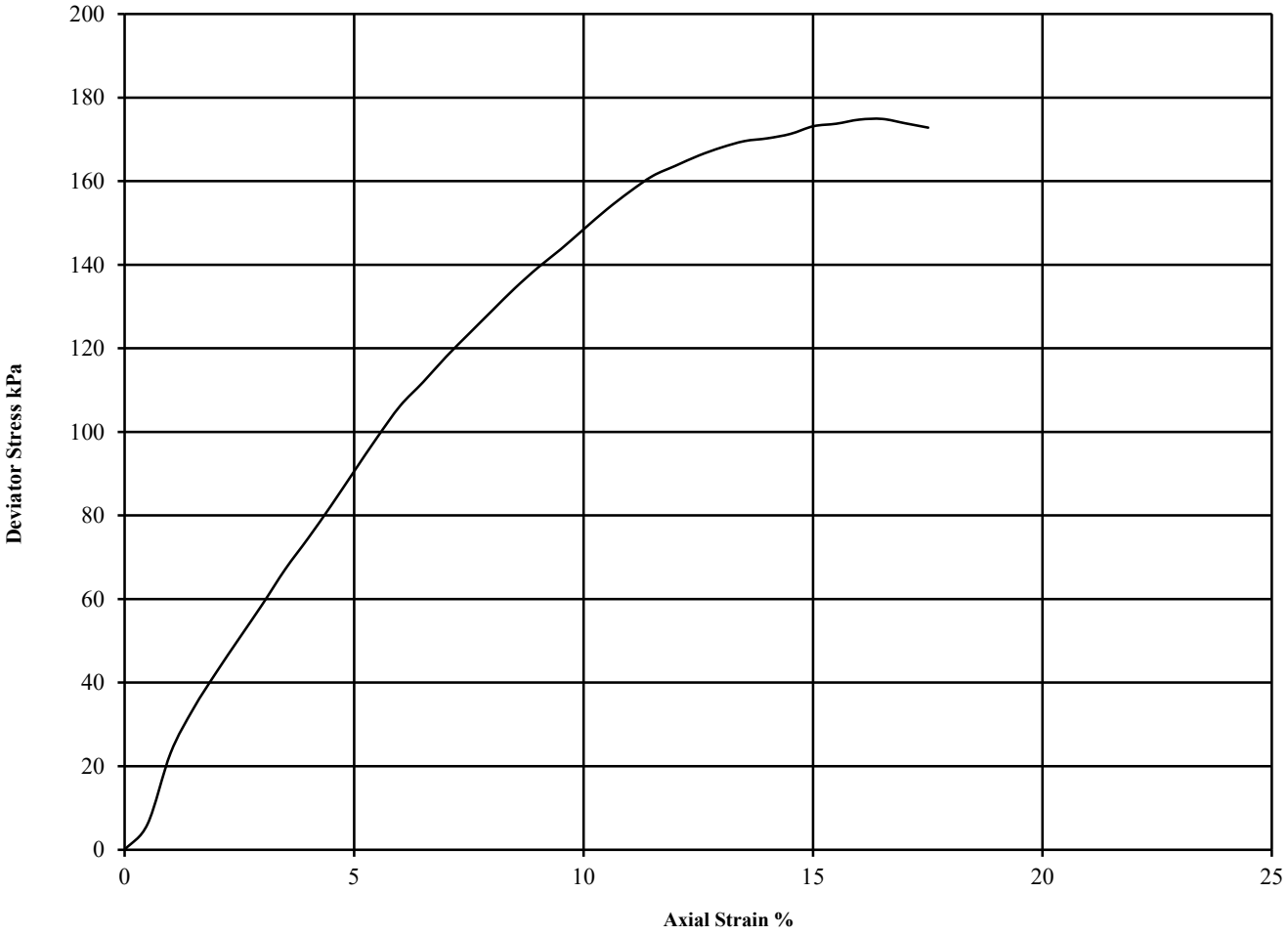
UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

BS 1377 - Part 2 : 2022 : Clause 28 in accordance with BS EN ISO 17892 - 8 : 2018

Hole Number: BH03 **Top Depth (m):** 11.00

Sample Number **Base Depth (m):**

Sample Type U



Diameter (mm):		102	Height (mm):		204	Test:	UU Single Stage		Remarks:
Specimen	Water Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)		Undisturbed Sample Sample taken from top of tube Rate of strain = 0.9 %/min See summary of soil descriptions
1	12.3	2.14	1.91	220	175	87	16.0	Plastic	

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Middleton Road, Crumpsall

Contract No: PSL26/5287

Client Ref:

APPENDIX 6 – Interim Ground Gas Monitoring Results

PERMANENT GROUND GAS MONITORING FORM

GROUNDTECH CONSULTING

SITE NAME:	*MIDDLETON ROAD, CRUMPSALL*	***ENGINEER:***	*Georgia Barnes*
CLIENT:	*WAIN HOMES*	***DATE:***	*02/07/2026*
JOB NO:	*GRO-26222*	***TIME:***	*-*

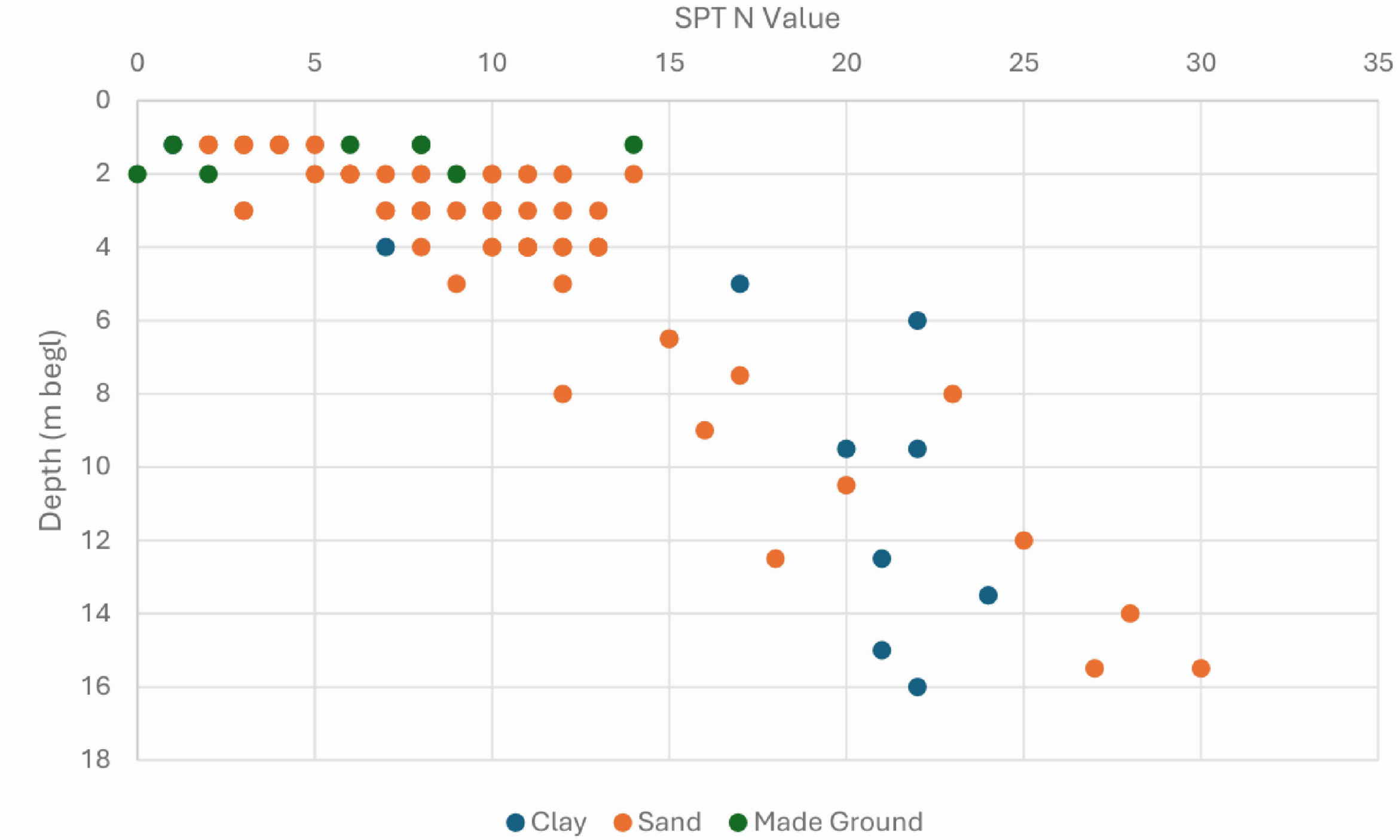
Pressure Trend:	*Steady*	***Weather:***		***Equipment:***	*GFM 436*

	O_2 (%v/v)	CH_4 (%v/v)	CO_2 (%v/v)	LEL	H_2S (ppm)	CO (ppm)
Ambient:						
Start	20.7	0.0	0.0	0.0	0.0	0.0
Finish	20.7	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)	Depth of Borehole (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady									
WS02	0.0	0.0	0.00	0.0	0.0	0.0	0.7	0.5	20.2	20.2	0.0	0.0	0.0	0.0	0.0007	0.0000	1008	-	N	N/A	N/A	NGW	3.71
WS05	0.0	0.0	0.00	0.0	0.0	0.0	4.1	3.9	20.2	20.2	0.0	0.0	0.0	0.0	0.0041	0.0000	1008	-	N	N/A	N/A	NGW	4.00
WS07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WS09	0.0	0.0	0.00	0.0	0.0	0.0	0.8	0.4	20.3	20.1	0.0	0.0	0.0	0.0	0.0008	0.0000	1008	-	N	N/A	N/A	NGW	3.83
WS12	0.0	0.0	0.00	0.0	0.0	0.0	1.4	1.1	20.5	20.4	0.0	0.0	0.0	0.0	0.0014	0.0000	1008	-	N	N/A	N/A	NGW	2.00

Notes:

APPENDIX 7 – Generalised Ground Model



GROUNDTECH CONSULTING

CLIENT	WAIN HOMES
PROJECT TITLE	MIDDLETON ROAD, CRUMPSALL
PLAN TITLE	GENERALISED GROUND MODEL
DATE	JULY 2026
SCALE	NTS
PLAN NUMBER	GRO-26222-P03

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 8 – Soil Percolation Test Results

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

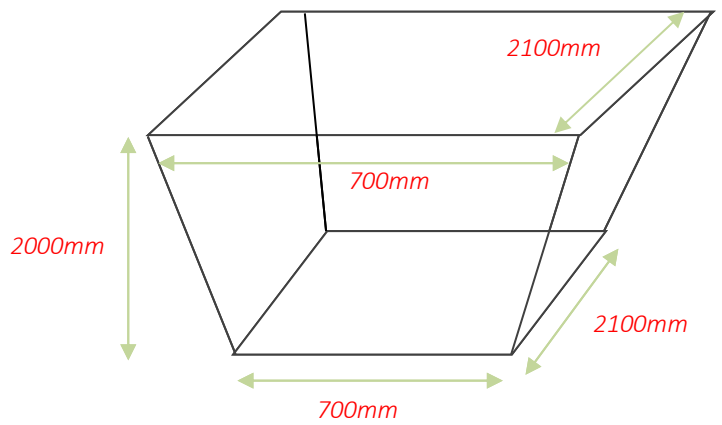
Date of Test: 12/06/2026

POSITION: SuDS01
TEST 1

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	2000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

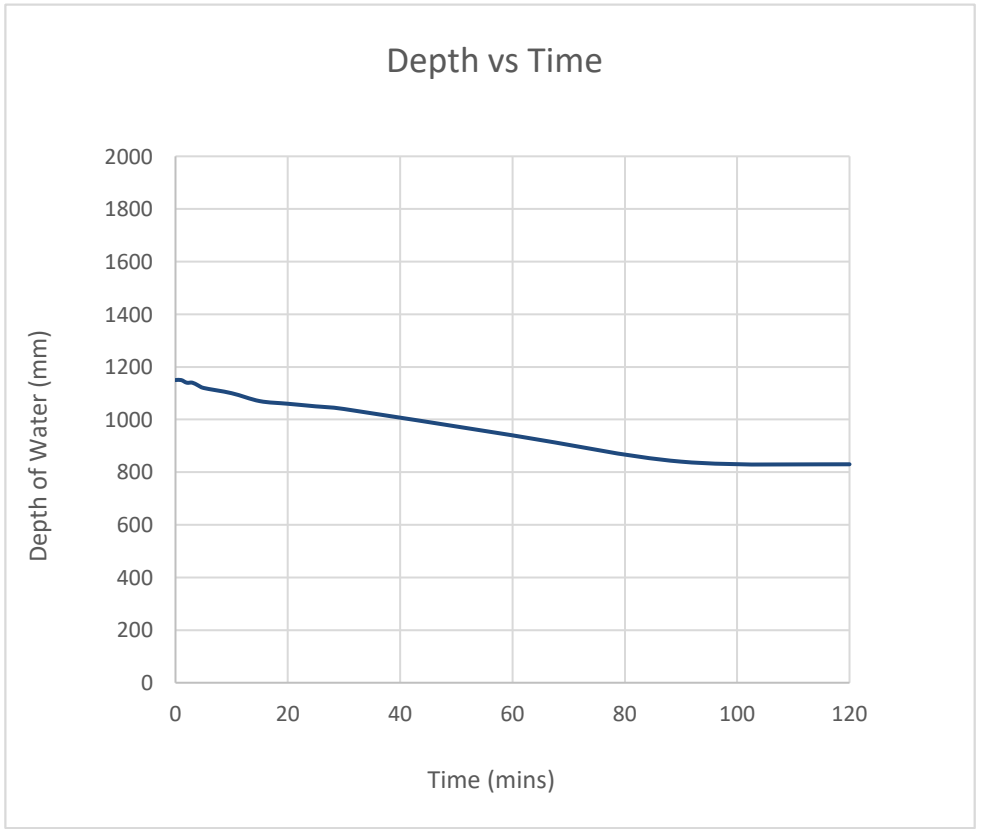
Time Elapsed (mins)	Depth to Water Level (mm)
0	1200
1	1200
2	1200
3	1100
4	1100
5	1100
10	1000
15	900
20	900
25	900
30	900
60	800
90	800
120	800

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS01
TEST 1



Volume of Pit (m^3)	2.94
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	1.176

Compliancy Check:

Water Level at 75% effective depth (mm)	600

Water Level at 25% effective depth (mm)	200

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	1200
Water Level 2	800
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	0.588

Discharge Area (m^2)	7.07

Soil Infiltration Rate (m/min)	0.000693069

Soil Infiltration Rate (m/sec)	***1.16E-05***

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

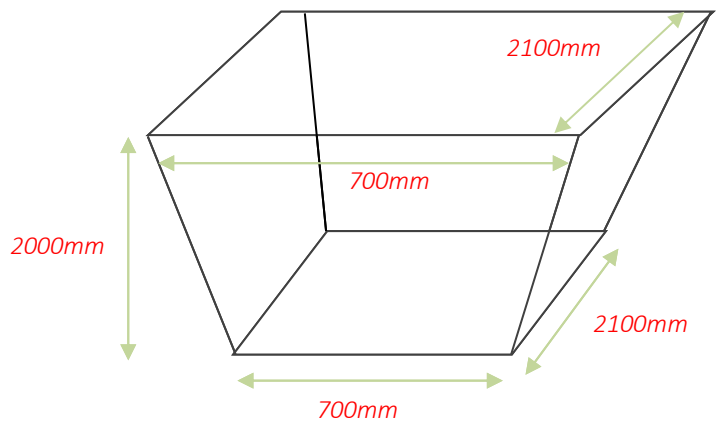
Date of Test: 12/06/2026

POSITION: SuDS01
TEST 2

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	2000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

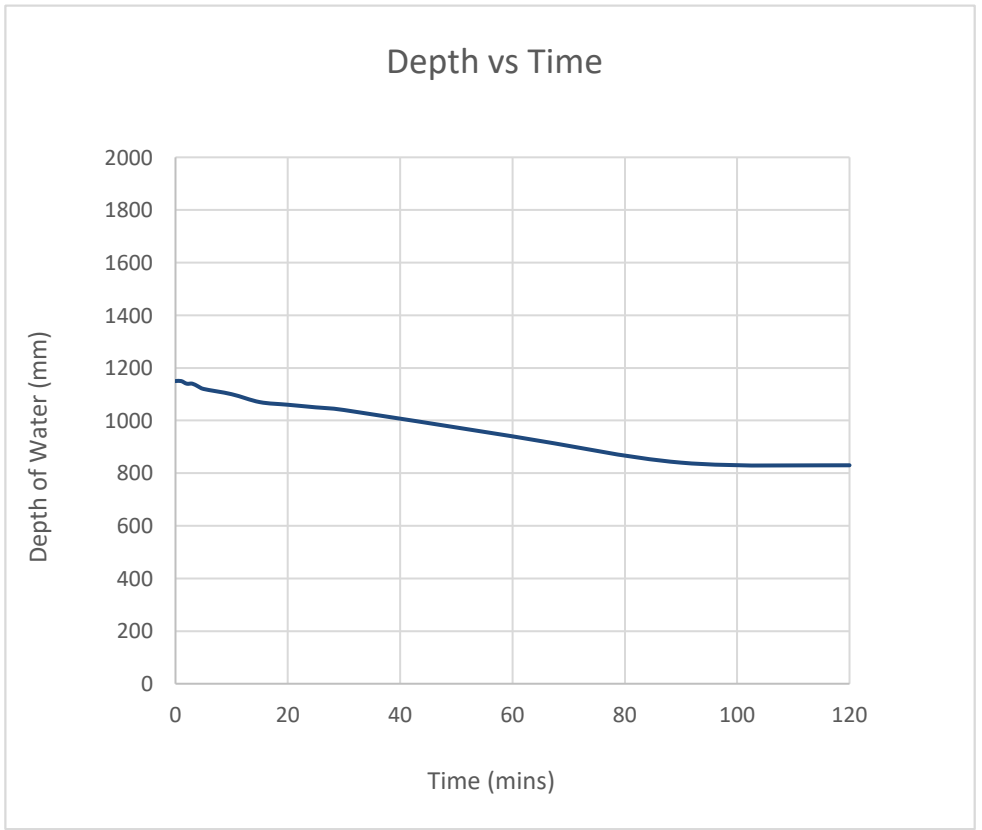
Time Elapsed (mins)	Depth to Water Level (mm)
0	1500
1	1500
2	1500
3	1300
4	1300
5	1300
10	1300
15	1200
20	1200
25	1100
30	1100
60	1100
90	1100
120	1100

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS01
TEST 2



Volume of Pit (m^3)	2.94
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	0.735

Compliancy Check:

Water Level at 75% effective depth (mm)	375
Water Level at 25% effective depth (mm)	125

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	1500
Water Level 2	1100
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	0.588
Discharge Area (m^2)	8.75
Soil Infiltration Rate (m/min)	0.00056
Soil Infiltration Rate (m/sec)	***9.33E-06***

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

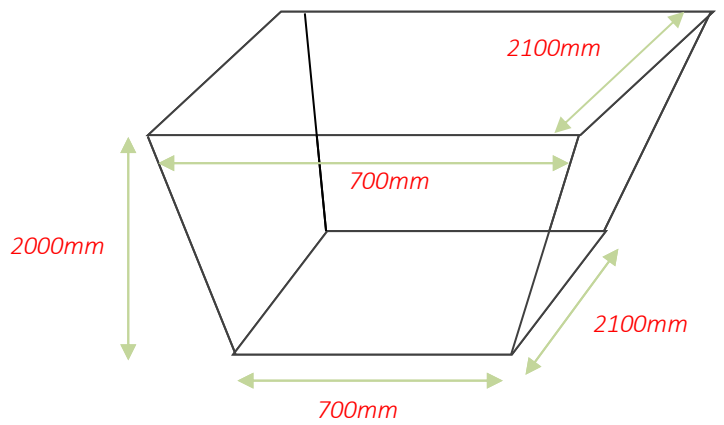
Date of Test: 12/06/2026

POSITION: SuDS01
TEST 3

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	2000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

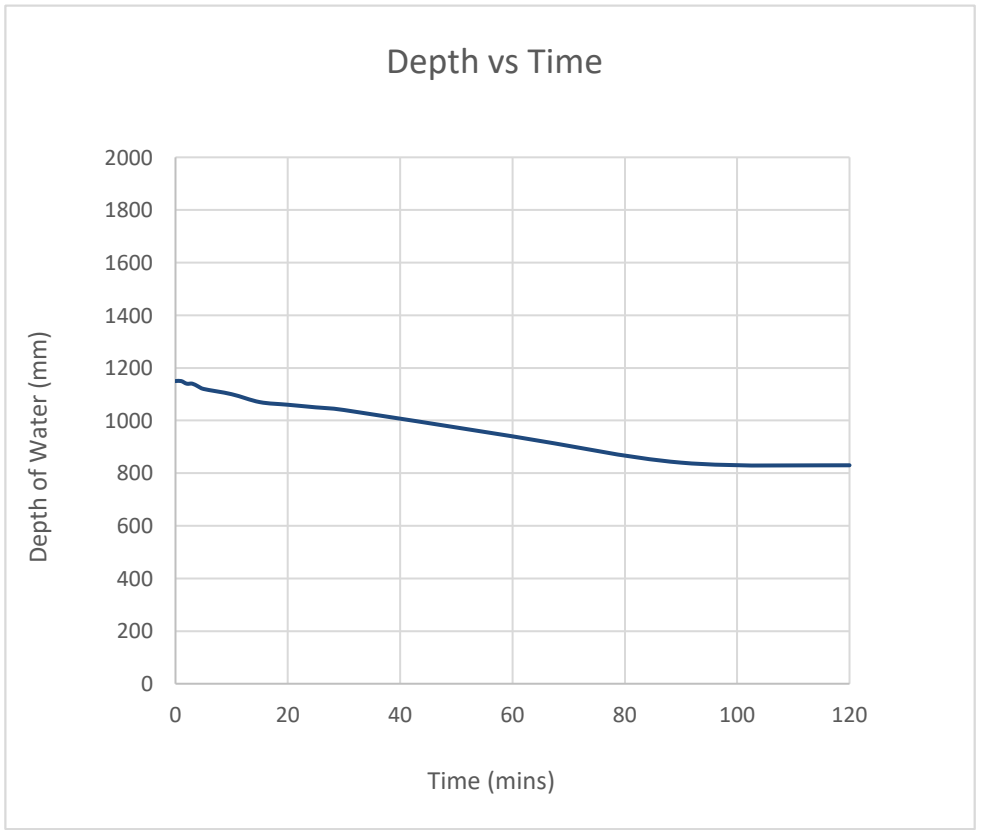
Time Elapsed (mins)	Depth to Water Level (mm)
0	1000
1	1000
2	1000
3	1000
4	1000
5	1000
10	1000
15	900
20	900
25	900
30	800
60	900
90	800
120	800

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS01
TEST 3



Volume of Pit (m^3)	2.94
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	1.47

Compliancy Check:

Water Level at 75% effective depth (mm)	750
Water Level at 25% effective depth (mm)	250

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	1000
Water Level 2	800
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	0.294
Discharge Area (m^2)	6.51
Soil Infiltration Rate (m/min)	0.000376344
Soil Infiltration Rate (m/sec)	***6.27E-06***

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

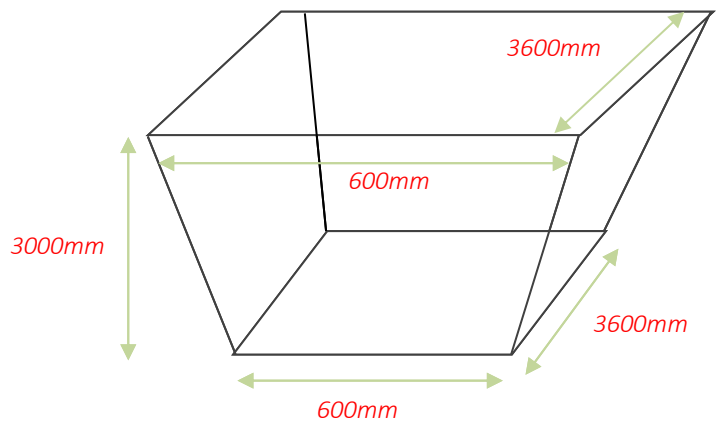
Date of Test: 12/06/2026

POSITION: SuDS02
TEST 1

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	3000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

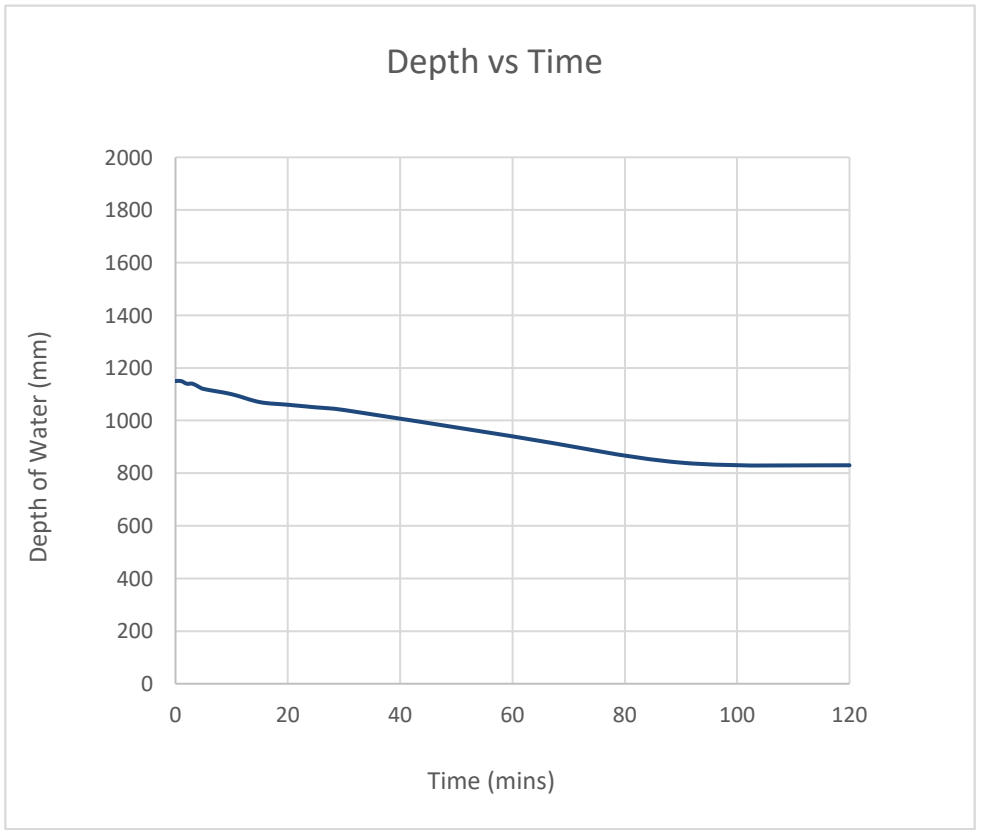
Time Elapsed (mins)	Depth to Water Level (mm)
0	2300
1	2300
2	2200
3	2200
4	2200
5	2200
10	2200
15	2200
20	2000
25	2000
30	1900
60	1900
90	1900
120	1900

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS02
TEST 1



Volume of Pit (m^3)	6.48
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	1.512

Compliancy Check:

Water Level at 75% effective depth (mm)	525

Water Level at 25% effective depth (mm)	175

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	2300
Water Level 2	1800
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	1.08

Discharge Area (m^2)	19.38

Soil Infiltration Rate (m/min)	0.000464396

Soil Infiltration Rate (m/sec)	***7.74E-06***

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

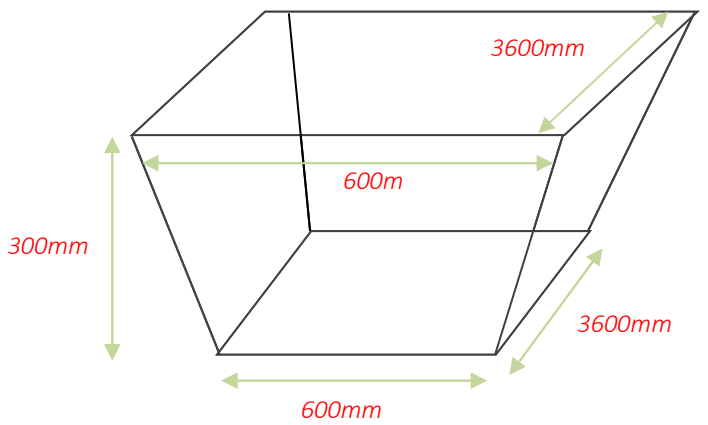
Date of Test: 12/06/2026

POSITION: SuDS02
TEST 2

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	3000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

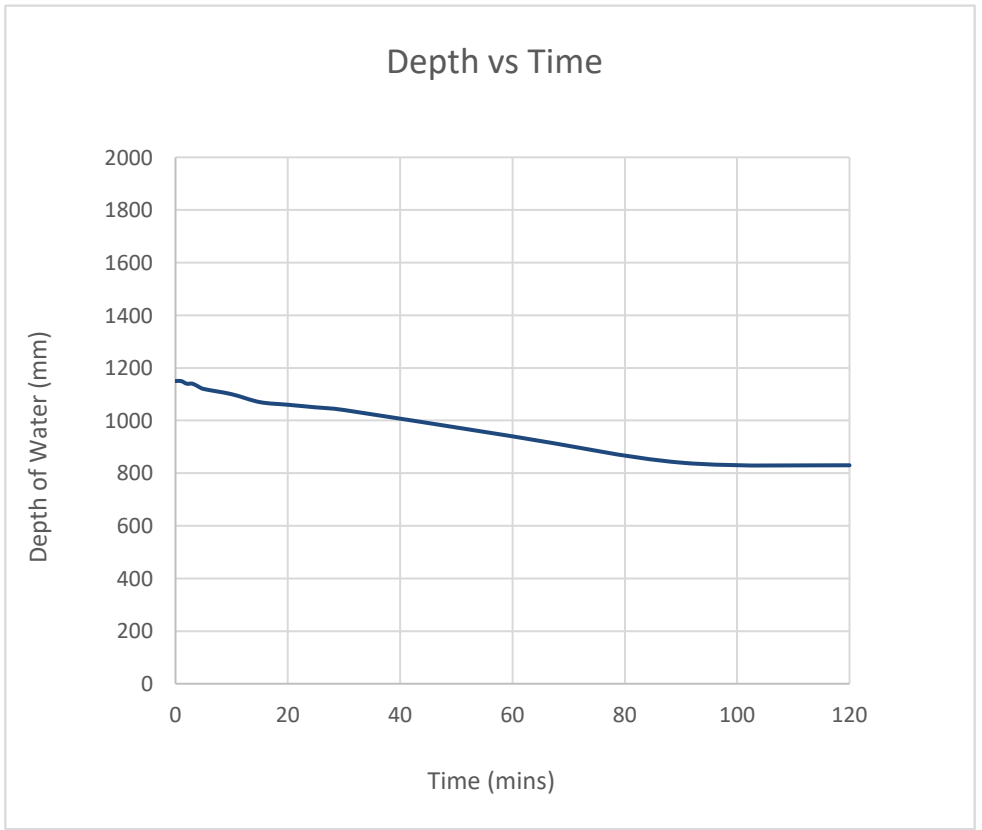
Time Elapsed (mins)	Depth to Water Level (mm)
0	2000
1	2000
2	2000
3	1900
4	1900
5	1900
10	1900
15	1900
20	1900
25	1800
30	1800
60	1800
90	1800
120	1800

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS02
TEST 2



Volume of Pit (m^3)	6.48
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	2.16

Compliancy Check:

Water Level at 75% effective depth (mm)	750

Water Level at 25% effective depth (mm)	250

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	2000
Water Level 2	1800
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	0.432

Discharge Area (m^2)	18.12

Soil Infiltration Rate (m/min)	0.000198675

Soil Infiltration Rate (m/sec)	***3.31E-06***

Middleton Road, Crumpsall
GRO-26222
Wain Homes

SOIL PERCOLATION TEST

Sheet 1 of 2

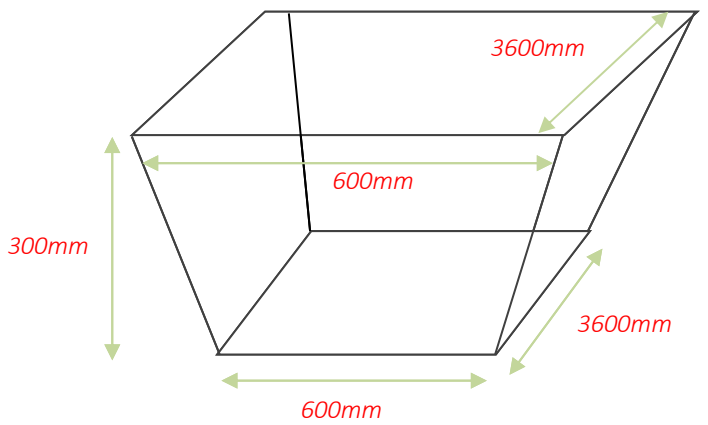
Date of Test: 12/06/2026

POSITION: SuDS02
TEST 3

Weather: Cloudy, Raining

Engineer: *MJ*
Checked: *RR*

Trial Pit Measurements



Pit Depth (mm):	3000
Pit Details:	Open with no stone filling
Groundwater Level:	NGW

Test Data

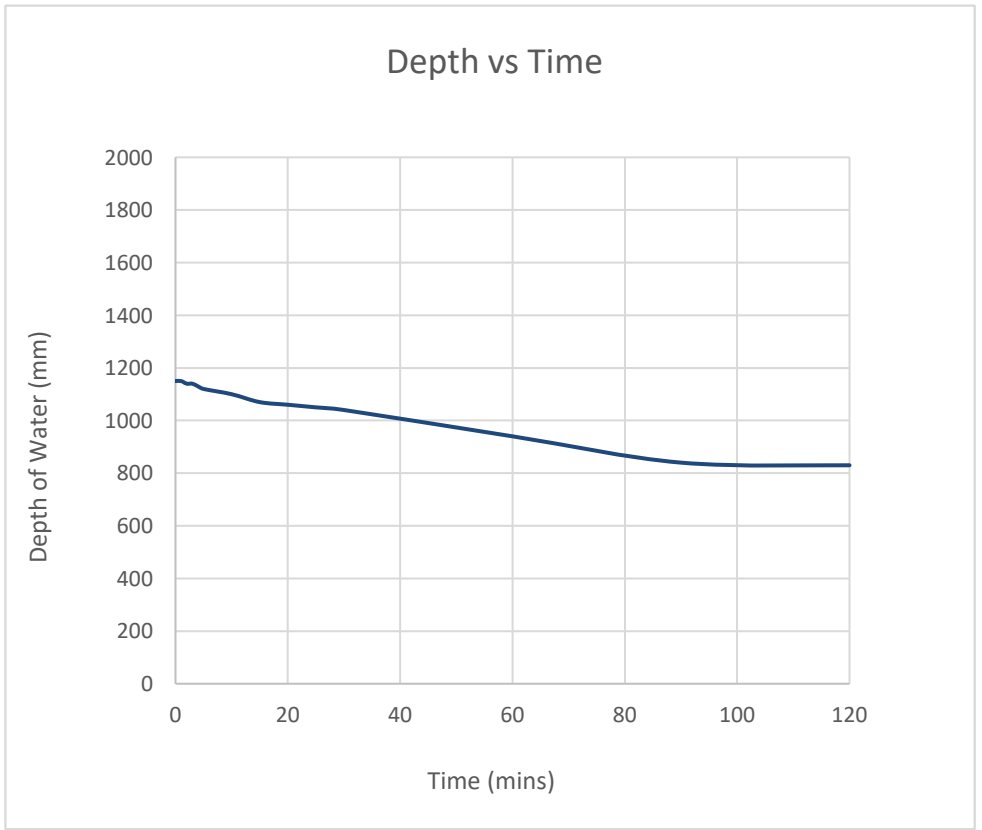
Time Elapsed (mins)	Depth to Water Level (mm)
0	2100
1	2100
2	2100
3	2000
4	2000
5	2000
10	1900
15	1900
20	1900
25	1900
30	1800
60	1800
90	1800
120	1800

Middleton Road, Crumpsall
GRO-26222
Wain Homes

Sheet 2 of 2

SOIL PERCOLATION TEST

POSITION: SuDS02
TEST 3



Volume of Pit (m^3)	6.48
Void Ratio of Infill	1
Volume of Infill (m^3)	N/A
Volume of Water in Pit (m^3)	1.944

Compliancy Check:

Water Level at 75% effective depth (mm)	675

Water Level at 25% effective depth (mm)	225

Test not BRE 365 compliant with BRE 365 - insufficient time to drain past 25% effective depth

Soil Infiltration Rate Calculation

Water Level 1	2100
Water Level 2	1800
Time to Drain from Level 1 to Level 2 (mins)	120
Volume of water discharged (m^3)	0.648

Discharge Area (m^2)	18.54

Soil Infiltration Rate (m/min)	0.000291262

Soil Infiltration Rate (m/sec)	***4.85E-06***

APPENDIX 9 – Generic Screening Values (Residential with Plant Uptake)

Generic Assessment Criteria (GAC)

Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source
SOM	%	1	2.5	6	1	2.5	6	
Arsenic	*mg/kg*	*37*	*37*	*37*	*640*	*640*	*640*	*LQM S4ULs*
Beryllium	*mg/kg*	*1.7*	*1.7*	*1.7*	*12*	*12*	*12*	*LQM S4ULs*
Boron (water soluble)	*mg/kg*	*290*	*290*	*290*	*240000*	*240000*	*240000*	*LQM S4ULs*
Cadmium	*mg/kg*	*11*	*11*	*11*	*190*	*190*	*190*	*LQM S4ULs*
Chromium (Total)	*mg/kg*	*910*	*910*	*910*	*8600*	*8600*	*8600*	*LQM S4ULs*
Chromium (VI)	*mg/kg*	*6*	*6*	*6*	*33*	*33*	*33*	*LQM S4ULs*
Copper	*mg/kg*	*2400*	*2400*	*2400*	*68000*	*68000*	*68000*	*LQM S4ULs*
Lead	*mg/kg*	*200*	*200*	*200*	*2300*	*2300*	*2300*	*DEFRA C4SLs*
Organic Mercury	*mg/kg*	*1.2*	*1.2*	*1.2*	*26*	*26*	*26*	*LQM S4ULs*
Nickel	*mg/kg*	*130*	*130*	*130*	*980*	*980*	*980*	*LQM S4ULs*
Selenium	*mg/kg*	*250*	*250*	*250*	*12000*	*12000*	*12000*	*LQM S4ULs*
Vanadium	*mg/kg*	*410*	*410*	*410*	*9000*	*9000*	*9000*	*LQM S4ULs*
Zinc	*mg/kg*	*3700*	*3700*	*3700*	*730000*	*730000*	*730000*	*LQM S4ULs*
Aliphatic EC 5 - 6	*mg/kg*	*42*	*78*	*160*	*3200 (304) sol*	*5900 (558) sol*	*12000 (1150)*	*LQM S4ULs*
Aliphatic EC 6 - 8	*mg/kg*	*100*	*230*	*530*	*7800 (144) sol*	*17000 (322) sol*	*40000 (736) sol*	*LQM S4ULs*
Aliphatic EC 8 - 10	*mg/kg*	*27*	*65*	*150*	*2000 (78) sol*	*4800 (190) sol*	*11000 (451) vap*	*LQM S4ULs*
Aliphatic EC 10 - 12	*mg/kg*	*130 (48) vap*	*330 (118) vap*	*760 (283) vap*	*9700 (48) sol*	*23000 (118) vap*	*47000 (283) vap*	*LQM S4ULs*
Aliphatic EC 12 - 16	*mg/kg*	*1100 (24) sol*	*2400 (59) sol*	*4300 (142) sol*	*59000 (24) sol*	*82000 (59) sol*	*90000 (142) sol*	*LQM S4ULs*
Aliphatic EC 16 - 35	*mg/kg*	*65000 (8.48)*	*92000 (21) f,sol*	*110000 f*	*1600000 f*	*1700000 f*	*1800000 f*	*LQM S4ULs*
Aliphatic EC 35 - 44	*mg/kg*	*65000 (8.48)*	*92000 (21) f,sol*	*110000 f*	*1600000 f*	*1700000 f*	*1800000 f*	*LQM S4ULs*
Aromatic EC 5 - 7	*mg/kg*	*70*	*140*	*300*	*26000 (1220)*	*46000 (2260)*	*86000 (4710)*	*LQM S4ULs*
Aromatic EC 7 - 8	*mg/kg*	*130*	*290*	*660*	*56000 (869) vap*	*110000 (1920)*	*180000 (4360)*	*LQM S4ULs*
Aromatic EC 8 - 10	*mg/kg*	*34*	*83*	*190*	*3500 (613) vap*	*8100 (1500) vap*	*17000 (3580)*	*LQM S4ULs*
Aromatic EC 10 - 12	*mg/kg*	*74*	*180*	*380*	*16000 (364) sol*	*28000 (899) sol*	*34000 (2150)*	*LQM S4ULs*
Aromatic EC 12 -16	*mg/kg*	*140*	*330*	*660*	*36000 (169) sol*	*37000*	*38000*	*LQM S4ULs*
Aromatic EC 16 - 21	*mg/kg*	*260 f*	*540 f*	*930 f*	*28000 f*	*28000 f*	*28000 f*	*LQM S4ULs*
Aromatic EC 21 - 35	*mg/kg*	*1100 f*	*1500 f*	*1700 f*	*28000 f*	*28000 f*	*28000 f*	*LQM S4ULs*
Aromatic EC 35 - 44	*mg/kg*	*1100 f*	*1500 f*	*1700 f*	*28000 f*	*28000 f*	*28000 f*	*LQM S4ULs*
Benzene	*mg/kg*	*0.087*	*0.17*	*0.37*	*27*	*47*	*90*	*LQM S4ULs*
Toluene	*mg/kg*	*130*	*130*	*130*	*56000 (869)*	*110000 (1920)*	*180000*	*LQM S4ULs*
Ethyl Benzene	*mg/kg*	*47*	*110*	*260*	*5700*	*13000*	*27000*	*LQM S4ULs*
Xylene - o	*mg/kg*	*60*	*140*	*330*	*6600*	*15000*	*33000*	*LQM S4ULs*
Xylene - m	*mg/kg*	*59*	*140*	*320*	*6200*	*14000*	*31000*	*LQM S4ULs*
Xylene - p	*mg/kg*	*56*	*130*	*310*	*5900*	*14000*	*30000*	*LQM S4ULs*
MTBE (methyl tert-butyl ether)	*mg/kg*	*49*	*84*	*160*	*7900*	*13000*	*24000*	*CL:AIRE 2010*
Acenaphthene	*mg/kg*	*210*	*510*	*1100*	*84000 (57) sol*	*97000 (141) sol*	*100000*	*LQM SAULs*
Acenaphthylene	*mg/kg*	*170*	*420*	*920*	*83000 (86.1) sol*	*97000 (212) sol*	*100000*	*LQM S4ULs*
Anthracene	*mg/kg*	*2400*	*5400*	*11000*	*520000*	*540000*	*540000*	*LQM S4ULs*
Benzo(a)anthracene	*mg/kg*	*7.2*	*11*	*13*	*170*	*170*	*180*	*LQM S4ULs*
Benzo(a)pyrene	*mg/kg*	*2.2*	*2.7*	*3*	*35*	*35*	*36*	*LQM S4ULs*
Benzo(b)fluoranthene	*mg/kg*	*2.6*	*3.3*	*3.7*	*44*	*44*	*45*	*LQM S4ULs*
Benzo(ghi)perylene	*mg/kg*	*320*	*340*	*350*	*3900*	*4000*	*4000*	*LQM S4ULs*
Benzo(k)fluoranthene	*mg/kg*	*77*	*93*	*100*	*1200*	*1200*	*1200*	*LQM S4ULs*
Chrysene	*mg/kg*	*15*	*22*	*27*	*350*	*350*	*350*	*LQM S4ULs*
Dibenzo(ah)anthracene	*mg/kg*	*0.24*	*0.28*	*0.3*	*3.5*	*3.6*	*3.6*	*LQM S4ULs*
Fluoranthene	*mg/kg*	*280*	*560*	*890*	*23000*	*23000*	*23000*	*LQM S4ULs*
Fluorene	*mg/kg*	*170*	*400*	*860*	*63000 (30.9) sol*	*68000*	*71000*	*LQM S4ULs*
Indeno(123-cd)pyrene	*mg/kg*	*27*	*36*	*41*	*500*	*510*	*510*	*LQM S4ULs*
Naphthalene	*mg/kg*	*15 f*	*36 f*	*85 f*	*1600 f*	*3700 f*	*8400 f*	*LQM S4ULs*
Phenanthrene	*mg/kg*	*95*	*220*	*440*	*22000*	*22000*	*23000*	*LQM S4ULs*
Pyrene	*mg/kg*	*620*	*1200*	*2000*	*54000*	*54000*	*54000*	*LQM S4ULs*

Generic Assessment Criteria (GAC)								
Proposed End Use	**Unit**	**Residential with Plant Uptake**			**Commercial**			**Source**
SOM	%	1	2.5	6	1	2.5	6	
Phenol	*mg/kg*	*120*	*200*	*380*	*440*	*690*	*1300*	*LQM S4ULs*
Chlorophenols	*mg/kg*	*0.87* [g]	*2*	*4.5*	*3500*	*4000*	*4300*	*LQM S4ULs*
Pentachlorophenol	*mg/kg*	*0.22*	*0.52*	*1.2*	*400*	*400*	*400*	*LQM S4ULs*
Carbon disulphide	*mg/kg*	*0.14*	*0.29*	*0.62*	*11*	*22*	*47*	*LQM S4ULs*
Hexachlorobutadiene	*mg/kg*	*0.29*	*0.7*	*1.6*	*31*	*66*	*120*	*LQM S4ULs*
1,1,1,2 Tetrachloroethane	*mg/kg*	*1.6*	*3.4*	*7.5*	*270*	*550*	*1100*	*LQM S4ULs*
1,1,1 Trichloroethane	*mg/kg*	*8.8*	*18*	*39*	*660*	*1300*	*3000*	*LQM S4ULs*
Trichloroethene	*mg/kg*	*0.016*	*0.034*	*0.075*	*1.2*	*2.6*	*5.7*	*LQM S4ULs*
Tetrachoromethane (Carbon Tetrachloride)	*mg/kg*	*0.026*	*0.056*	*0.13*	*2.9*	*6.3*	*14*	*LQM S4ULs*
1,2-Dichloroethane	*mg/kg*	*0.0071*	*0.011*	*0.019*	*0.67*	*0.97*	*1.7*	*LQM S4ULs*
Chloroethene (Vinyl chloride)	*mg/kg*	*0.00064*	*0.00087*	*0.0014*	*0.059*	*0.077*	*0.12*	*LQM S4ULs*
Trichloromethane (Chloroform)	*mg/kg*	*0.91*	*1.7*	*3.4*	*99*	*170*	*350*	*LQM S4ULs*
Tetrachloroethene	*mg/kg*	*0.18*	*0.39*	*0.9*	*19*	*42*	*95*	*LQM S4ULs*
Hexachlorobenzene	*mg/kg*	*1.8 (0.2)* [vap]	*3.3 (0.5)* [vap]	*4.9*	*110 (0.2)* [vap]	*120*	*120*	*LQM S4ULs*
Pentachlorobenzene	*mg/kg*	*5.8*	*12*	*22*	*640 (43)* [sol]	*770 (107)* [sol]	*830*	*LQM S4ULs*
1,2,4,5-Tetrachlorobenzene	*mg/kg*	*0.33*	*0.77*	*1.6*	*42 (19.7)* [sol]	*72 (49.1)* [sol]	*96*	*LQM S4ULs*
1,2,3,5-Tetrachlorobenzene	*mg/kg*	*0.66*	*1.69*	*3.7*	*49 (39.4)* [vap]	*120 (98.1)* [vap]	*240 (235)* [vap]	*LQM S4ULs*
1,2,3,4-Tetrachlorobenzene	*mg/kg*	*15*	*36*	*78*	*1700 (122)* [vap]	*3080 (304)* [vap]	*4400 (728)* [vap]	*LQM S4ULs*
1,3,5-Trichlorobenzene	*mg/kg*	*0.33*	*0.81*	*1.9*	*23*	*55*	*130*	*LQM S4ULs*
1,2,4-Trichlorobenzene	*mg/kg*	*2.6*	*6.4*	*15*	*220*	*530*	*1300*	*LQM S4ULs*
1,2,3-Trichlorobenzene	*mg/kg*	*1.5*	*3.6*	*8.6*	*102*	*250*	*590*	*LQM S4ULs*
1,4-dichlorobenzene	*mg/kg*	*61* [f]	*150* [f]	*350* [f]	*4400* [f] *(224)* [vap]	*10000* [f] *(540)*	*25000* [f] *(1280)*	*LQM S4ULs*
1,3-dichlorobenzene	*mg/kg*	*0.4*	*1*	*2.3*	*30*	*73*	*170*	*LQM S4ULs*
1,2-Dichlorobenzene	*mg/kg*	*23*	*55*	*130*	*2000 (571)* [sol]	*4800 (1370)* [sol]	*11000 (3240)*	*LQM S4ULs*
Chlorobenzene	*mg/kg*	*0.46*	*1*	*2.4*	*56*	*130*	*290*	*LQM S4ULs*
Gamma-Hexachlorocyclohexane	*mg/kg*	*0.06*	*0.14*	*0.33*	*67*	*69*	*70*	*LQM S4ULs*
Beta-Hexachlorocyclohexane	*mg/kg*	*0.085*	*0.2*	*0.46*	*65*	*65*	*65*	*LQM S4ULs*
Alpha -Hexachlorocyclohexane	*mg/kg*	*0.23*	*0.55*	*1.2*	*170*	*180*	*180*	*LQM S4ULs*
Beta -Endosulfan	*mg/kg*	*7*	*17*	*39*	*6300 (0.00007)*	*7800 (0.0002)*	*8700*	*LQM S4ULs*
Alpha-Endosulfan	*mg/kg*	*7.4*	*18*	*41*	*5600 (0.003)* [vap]	*7400 (0.007)* [vap]	*8400 (0.016)* [vap]	*LQM S4ULs*
Dichlorvos	*mg/kg*	*0.032*	*0.066*	*0.14*	*140*	*140*	*140*	*LQM S4ULs*
Atrazine	*mg/kg*	*3.3*	*7.6*	*17.4*	*9300*	*9400*	*9400*	*LQM S4ULs*
Dieldrin	*mg/kg*	*0.97*	*2*	*3.5*	*170*	*170*	*170*	*LQM S4ULs*
Aldrin	*mg/kg*	*5.7*	*6.6*	*7.1*	*170*	*170*	*170*	*LQM S4ULs*
HMX	*mg/kg*	*5.7*	*13*	*26*	*110000*	*110000*	*110000*	*LQM S4ULs*
2,4,6-Trinitrotoulene	*mg/kg*	*1.6*	*3.7*	*8.1*	*1000*	*1000*	*1000*	*LQM S4ULs*
RDX	*mg/kg*	*120*	*250*	*540*	*210000*	*210000*	*210000*	*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

Project Reference	GRO-26222
Site Name	MIDDLETON ROAD, CRUMPSALL
Client	WAIN HOMES
Run by	REBECCA ROWLINSON
Date	10-Jul-26
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 firmly linked in a matrix	2
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Low quantities - >0.01 to <0.05 %wt/wt	2
Sub-total		**11**

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking **Medium**

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.

© Joint Industry Working Group, ©CL:AIRE
Version 2, July 2016

Stage 2

Exposure Factors

		Score
Anticipated airborne fibre concentration - Control Limit or SALI?	<0.01 fibres/ml	1
Anticipated duration of exposure to asbestos	< 2 hours in a 7 day period for all persons involved (e.g. Short Duration Work)	1
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		**9**
Exposure ranking		Low
Combined hazard and exposure ranking	**20**	Low

© Joint Industry Working Group, ©CL:AIRE

Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	EN149 type FFP3 disposable
Dust Suppression**	Manual/localised dust suppression
Hygiene/Decontamination***	Localised and basic 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

© Joint Industry Working Group, ©CL:AIRE

APPENDIX 12 – Waste Classification Assessment

Waste Classification Report

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

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.

DGBCD-1BO8P-STYLO

Report is invalid if pages are removed.

Job name

EMT-26-9431-Batch-1-202607161641

Description/Comments

Project

Crumpsall

Site

Middleton Road

Classified by

Name:
Luke Harrison
Date:
23 Jul 2026 08:31 GMT
Telephone:

Company:
Groundtech Consulting Limited
First Floor, Lloyd House, Orford Court, Greenfold Way, 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	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Middleton Road, Crumpsall **Post Code** M8 4JZ

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

Description of industry/producer giving rise to the waste

Redevelopment of open land to residential dwellings.

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

Waste created during construction.

Description of the waste

Made Ground and Topsoil.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH03-11/06/2026-0.20m		Non Hazardous		3
2	TP01-08/06/2026-0.20m		Non Hazardous		5
3	TP02-08/06/2026-0.20m		Non Hazardous		6
4	TP03-08/06/2026-0.20m		Non Hazardous		7
5	TP04-12/06/2026-0.20m		Non Hazardous		8
6	TP05-12/06/2026-0.50m		Non Hazardous		10
7	TP06-12/06/2026-0.50m		Non Hazardous		11
8	TP07-12/06/2026-0.20m		Non Hazardous		12
9	WS02-10/06/2026-0.20m		Non Hazardous		13
10	WS03-10/06/2026-0.20m		Non Hazardous		15
11	WS04-10/06/2026-0.20m		Non Hazardous		16
12	WS05-10/06/2026-0.50m		Non Hazardous		17
13	WS05-10/06/2026-1.00m		Non Hazardous		19
14	WS06-11/06/2026-0.20m		Non Hazardous		21
15	WS07-11/06/2026-0.20m		Non Hazardous		23
16	WS08-11/06/2026-0.50m		Non Hazardous		25
17	WS09-11/06/2026-0.20m		Non Hazardous		27
18	WS10-11/06/2026-0.20m		Non Hazardous		28
19	WS11-11/06/2026-0.20m		Non Hazardous		29
20	SUD02-12/06/2026-0.20m		Non Hazardous		30

Related documents

#	Name	Description
1	EMT-26-9431-Batch-1-202607161641.HWOL	Element .hwol file used to populate the Job

Report

Created by: Luke Harrison

Created date: 23 Jul 2026 08:31 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	32
Appendix B: Rationale for selection of metal species	32
Appendix C: Version	33

Classification of sample: BH03-11/06/2026-0.20m

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

Sample details

Sample name:
BH03-11/06/2026-0.20m
Moisture content:
33.3%
(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: 33.3% 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	pH			PH		5.21 pH		5.21 pH	5.21 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		8.6 mg/kg	1.534	9.896 mg/kg	0.00099 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18 mg/kg	1.126	15.203 mg/kg	0.00152 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	48 mg/kg		36.009 mg/kg	0.0036 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.1 mg/kg		0.075 mg/kg	0.0000075 %	✓	
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		9.2 mg/kg	5.324	36.747 mg/kg	0.00367 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		32 mg/kg	1.245	29.881 mg/kg	0.00299 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<6 mg/kg	1.923	<11.539 mg/kg	<0.00115 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		59.2 mg/kg	1.462	64.909 mg/kg	0.00649 %	✓	
								Total:	0.0193 %		

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: TP01-08/06/2026-0.20m

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

Sample details

Sample name:
TP01-08/06/2026-0.20m

Moisture content:
28.7%
(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: 28.7% 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		pH			PH		5.42	pH		5.42	pH	5.42 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		12.5	mg/kg	1.534	14.898	mg/kg	0.00149 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25	mg/kg	1.126	21.87	mg/kg	0.00219 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	80	mg/kg		62.16	mg/kg	0.00622 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.5	mg/kg		0.389	mg/kg	0.0000389 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		16.8	mg/kg	5.324	69.501	mg/kg	0.00695 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		59	mg/kg	1.245	57.061	mg/kg	0.00571 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.3	mg/kg	1.462	43.495	mg/kg	0.00435 %	✓	
											Total:	0.0269 %		

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: TP02-08/06/2026-0.20m

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

Sample details

Sample name:
TP02-08/06/2026-0.20m
Moisture content:
16.6%
(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: 16.6% 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		pH			PH		4.95 pH		4.95 pH	4.95 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		8.2 mg/kg	1.534	10.787 mg/kg	0.00108 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	26.071 mg/kg	0.00261 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	51 mg/kg		43.739 mg/kg	0.00437 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11.9 mg/kg	5.324	54.339 mg/kg	0.00543 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		38 mg/kg	1.245	40.565 mg/kg	0.00406 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.2 mg/kg	1.462	42.869 mg/kg	0.00429 %	✓	
									Total:	0.0218 %		

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: TP03-08/06/2026-0.20m

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

Sample details

Sample name:
TP03-08/06/2026-0.20m
Moisture content:
21.5%
(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: 21.5% 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		pH			PH		5.45	pH		5.45	pH	5.45 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		8.3	mg/kg	1.534	10.478	mg/kg	0.00105 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	21.313	mg/kg	0.00213 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	57	mg/kg		46.914	mg/kg	0.00469 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11.1	mg/kg	5.324	48.642	mg/kg	0.00486 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.102	mg/kg	0.00021 %	✓	
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		41	mg/kg	1.245	42.003	mg/kg	0.0042 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37.8	mg/kg	1.462	45.471	mg/kg	0.00455 %	✓	
											Total:	0.0217 %		

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: TP04-12/06/2026-0.20m

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

Sample details

Sample name:
TP04-12/06/2026-0.20m
Moisture content:
19.7%
(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: 19.7% 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		pH PH		7.89 pH		7.89 pH	7.89 pH		
2		arsenic { arsenic pentoxide } 033-004-00-6 / 215-116-9 / 1303-28-2		8.9 mg/kg	1.534	11.405 mg/kg	0.00114 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex } 048-001-00-5	1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide } 029-002-00-X / 215-270-7 / 1317-39-1		34 mg/kg	1.126	31.98 mg/kg	0.0032 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6	1	36 mg/kg		30.075 mg/kg	0.00301 %	✓	
6		mercury { mercury } 080-001-00-0 / 231-106-7 / 7439-97-6		0.1 mg/kg		0.0835 mg/kg	0.00000835 %	✓	
7		nickel { nickel diiodide } 028-029-00-4 / 236-666-6 / 13462-90-3		14.2 mg/kg	5.324	63.162 mg/kg	0.00632 %	✓	
8		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**
9		zinc { zinc oxide } 030-013-00-7 / 215-222-5 / 1314-13-2		43 mg/kg	1.245	44.714 mg/kg	0.00447 %	✓	
10		chromium { chromium(III) oxide (worst case) } 215-160-9 / 1308-38-9		36.1 mg/kg	1.462	44.079 mg/kg	0.00441 %	✓	
11		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**
12		benzene 601-020-00-8 / 200-753-7 / 71-43-2		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
13		toluene 601-021-00-3 / 203-625-9 / 108-88-3		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
14		ethylbenzene 601-023-00-4 / 202-849-4 / 100-41-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		o-xylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-022-00-9	202-422-2	95-47-6									
16		TPH (C6 to C40) petroleum group				<38	mg/kg		<38	mg/kg	<0.0038 %		<**LOD**
				TPH									
										Total:	0.0225 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated 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: TP05-12/06/2026-0.50m

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

Sample details

Sample name:
TP05-12/06/2026-0.50m
Moisture content:
22.5%
(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: 22.5% 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		pH			PH		7.68	pH		7.68	pH	7.68 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		10.6	mg/kg	1.534	13.273	mg/kg	0.00133 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30	mg/kg	1.126	27.573	mg/kg	0.00276 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	54	mg/kg		44.082	mg/kg	0.00441 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.6	mg/kg		0.49	mg/kg	0.000049 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		15.7	mg/kg	5.324	68.238	mg/kg	0.00682 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		64	mg/kg	1.245	65.03	mg/kg	0.0065 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.7	mg/kg	1.462	41.401	mg/kg	0.00414 %	✓	
											Total:	0.026 %		

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: TP06-12/06/2026-0.50m

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

Sample details

Sample name:
TP06-12/06/2026-0.50m
Moisture content:
16.6%
(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: 16.6% 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		pH			PH		7.92	pH		7.92	pH	7.92 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		11.3	mg/kg	1.534	14.865	mg/kg	0.00149 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33	mg/kg	1.126	31.865	mg/kg	0.00319 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	80	mg/kg		68.611	mg/kg	0.00686 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.7	mg/kg		0.6	mg/kg	0.00006 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		15.4	mg/kg	5.324	70.321	mg/kg	0.00703 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		90	mg/kg	1.245	96.076	mg/kg	0.00961 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.1	mg/kg	1.462	45.251	mg/kg	0.00453 %	✓	
											Total:	0.0328 %		

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: TP07-12/06/2026-0.20m

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

Sample details

Sample name:
TP07-12/06/2026-0.20m
Moisture content:
29.6%
(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: 29.6% 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		pH			PH		5.36	pH		5.36	pH	5.36 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		12.2	mg/kg	1.534	14.439	mg/kg	0.00144 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26	mg/kg	1.126	22.587	mg/kg	0.00226 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	84	mg/kg		64.815	mg/kg	0.00648 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.5	mg/kg		0.386	mg/kg	0.0000386 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11.1	mg/kg	5.324	45.602	mg/kg	0.00456 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		51	mg/kg	1.245	48.982	mg/kg	0.0049 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36.8	mg/kg	1.462	41.501	mg/kg	0.00415 %	✓	
											Total:	0.0238 %		

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: WS02-10/06/2026-0.20m

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

Sample details

Sample name:
WS02-10/06/2026-0.20m
Moisture content:
49%
(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: 49% 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	pH			PH		6.6 pH		6.6 pH	6.6 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		11.8 mg/kg	1.534	12.147 mg/kg	0.00121 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32 mg/kg	1.126	24.18 mg/kg	0.00242 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	102 mg/kg		68.456 mg/kg	0.00685 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.6 mg/kg		0.403 mg/kg	0.0000403 %	✓	
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		13.7 mg/kg	5.324	48.955 mg/kg	0.0049 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		68 mg/kg	1.245	56.806 mg/kg	0.00568 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19.5 mg/kg	1.462	19.128 mg/kg	0.00191 %	✓	
								Total:	0.023 %		

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: WS03-10/06/2026-0.20m

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

Sample details

Sample name:
WS03-10/06/2026-0.20m
Moisture content:
23.4%
(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: 23.4% 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		pH			PH		6.13	pH		6.13	pH	6.13 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		5	mg/kg	1.534	6.215	mg/kg	0.000622 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18	mg/kg	1.126	16.423	mg/kg	0.00164 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	18	mg/kg		14.587	mg/kg	0.00146 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		15.2	mg/kg	5.324	65.583	mg/kg	0.00656 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		55	mg/kg	1.245	55.478	mg/kg	0.00555 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.8	mg/kg	1.462	48.324	mg/kg	0.00483 %	✓	
											Total:	0.0207 %		

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: WS04-10/06/2026-0.20m

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

Sample details

Sample name:
WS04-10/06/2026-0.20m
Moisture content:
29%
(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: 29% 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		pH			PH		5.22 pH		5.22 pH	5.22 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		11 mg/kg	1.534	13.08 mg/kg	0.00131 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	23.565 mg/kg	0.00236 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	60 mg/kg		46.512 mg/kg	0.00465 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.1 mg/kg		0.0775 mg/kg	0.00000775 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11.9 mg/kg	5.324	49.116 mg/kg	0.00491 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		42 mg/kg	1.245	40.526 mg/kg	0.00405 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35 mg/kg	1.462	39.655 mg/kg	0.00397 %	✓	
									Total:	0.0213 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated 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: WS05-10/06/2026-0.50m

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

Sample details

Sample name:
WS05-10/06/2026-0.50m

Moisture content:
<0.1%
(no correction)

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: <0.1% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		pH				7.15	pH		7.15	pH	7.15 pH		
				PH									
2		chromium in Cr(VI) compounds { chromium(VI) oxide }				<0.3	mg/kg	1.923	<0.577	mg/kg	<0.0000577 %		<**LOD**
		024-001-00-0	215-607-8	1333-82-0									
3		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									
4		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
5		toluene				17	µg/kg		0.017	mg/kg	0.0000017 %		
		601-021-00-3	203-625-9	108-88-3									
6		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
7		o-xylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-022-00-9	202-422-2	95-47-6									
8		TPH (C6 to C40) petroleum group				143	mg/kg		143	mg/kg	0.0143 %		
				TPH									
										Total:	0.0143 %		

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and £ 75 °C;"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: No free phase present.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 1.7e-06%)

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0143%)

Classification of sample: WS05-10/06/2026-1.00m

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

Sample details

Sample name:
WS05-10/06/2026-1.00m

Moisture content:
14.8%
(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: 14.8% 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	pH			PH		7 pH		7 pH	7pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		6 mg/kg	1.534	8.017 mg/kg	0.000802 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		24 mg/kg	1.126	23.538 mg/kg	0.00235 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	12 mg/kg		10.453 mg/kg	0.00105 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		47.5 mg/kg	5.324	220.3 mg/kg	0.022 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		62 mg/kg	1.245	67.223 mg/kg	0.00672 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.7 mg/kg	1.462	51.816 mg/kg	0.00518 %	✓	
								Total:	0.0381 %		

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: WS06-11/06/2026-0.20m

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

Sample details

Sample name:
WS06-11/06/2026-0.20m
Moisture content:
18.8%
(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: 18.8% 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	pH			PH		5.27 pH		5.27 pH	5.27 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		3.4 mg/kg	1.534	4.39 mg/kg	0.000439 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		8 mg/kg	1.126	7.582 mg/kg	0.000758 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	18 mg/kg		15.152 mg/kg	0.00152 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		5.1 mg/kg	5.324	22.857 mg/kg	0.00229 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		12 mg/kg	1.245	12.573 mg/kg	0.00126 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<6 mg/kg	1.923	<11.539 mg/kg	<0.00115 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33.9 mg/kg	1.462	41.706 mg/kg	0.00417 %	✓	
								Total:	0.0104 %		

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: WS07-11/06/2026-0.20m

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

Sample details

Sample name:
WS07-11/06/2026-0.20m
Moisture content:
20.1%
(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: 20.1% 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	pH			PH		7.99 pH		7.99 pH	7.99 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		14.6 mg/kg	1.534	18.647 mg/kg	0.00186 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	25.311 mg/kg	0.00253 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	46 mg/kg		38.301 mg/kg	0.00383 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.6 mg/kg		0.5 mg/kg	0.00005 %	✓	
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		12.6 mg/kg	5.324	55.859 mg/kg	0.00559 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		48 mg/kg	1.245	49.747 mg/kg	0.00497 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	37.725 mg/kg	0.00377 %	✓	
								Total:	0.0226 %		

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: WS08-11/06/2026-0.50m

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

Sample details

Sample name:
WS08-11/06/2026-0.50m

Moisture content:
19.3%
(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: 19.3% 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	pH			PH		5.46 pH		5.46 pH	5.46 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		4.7 mg/kg	1.534	6.043 mg/kg	0.000604 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	15.1 mg/kg	0.00151 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	9 mg/kg		7.544 mg/kg	0.000754 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		22 mg/kg	5.324	98.185 mg/kg	0.00982 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		54 mg/kg	1.245	56.341 mg/kg	0.00563 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
11	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39.9 mg/kg	1.462	48.882 mg/kg	0.00489 %	✓	
								Total:	0.0232 %		

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: WS09-11/06/2026-0.20m

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

Sample details

Sample name:
WS09-11/06/2026-0.20m

Moisture content:
42.4%
(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: 42.4% 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		pH			PH		5.63	pH		5.63	pH	5.63 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		23.5	mg/kg	1.534	25.313	mg/kg	0.00253 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	22.929	mg/kg	0.00229 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	264	mg/kg		185.393	mg/kg	0.0185 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		20.7	mg/kg		14.537	mg/kg	0.00145 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		15.7	mg/kg	5.324	58.702	mg/kg	0.00587 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		72	mg/kg	1.245	62.935	mg/kg	0.00629 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		71.5	mg/kg	1.462	73.386	mg/kg	0.00734 %	✓	
											Total:	0.0443 %		

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: WS10-11/06/2026-0.20m

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

Sample details

Sample name:
WS10-11/06/2026-0.20m
Moisture content:
29.7%
(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: 29.7% 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		pH			PH		5.84	pH		5.84	pH	5.84 pH		
2		arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		14.6	mg/kg	1.534	17.266	mg/kg	0.00173 %	✓	
3		cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21	mg/kg	1.126	18.229	mg/kg	0.00182 %	✓	
5		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	112	mg/kg		86.353	mg/kg	0.00864 %	✓	
6		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		1.3	mg/kg		1.002	mg/kg	0.0001 %	✓	
7		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		10.7	mg/kg	5.324	43.924	mg/kg	0.00439 %	✓	
8		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**
9		zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		56	mg/kg	1.245	53.742	mg/kg	0.00537 %	✓	
10		chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34.7	mg/kg	1.462	39.103	mg/kg	0.00391 %	✓	
											Total:	0.026 %		

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: WS11-11/06/2026-0.20m

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

Sample details

Sample name:
WS11-11/06/2026-0.20m
Moisture content:
28.1%
(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: 28.1% 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	pH			PH		5.99 pH		5.99 pH	5.99 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		9.3 mg/kg	1.534	11.136 mg/kg	0.00111 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		**<LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	14.063 mg/kg	0.00141 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	49 mg/kg		38.251 mg/kg	0.00383 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		0.2 mg/kg		0.156 mg/kg	0.0000156 %	✓	
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		11 mg/kg	5.324	45.72 mg/kg	0.00457 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		46 mg/kg	1.245	44.697 mg/kg	0.00447 %	✓	
10	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		50.9 mg/kg	1.462	58.074 mg/kg	0.00581 %	✓	
								Total:	0.0212 %		

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: SUD02-12/06/2026-0.20m

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

Sample details

Sample name:
SUD02-12/06/2026-0.20m
Moisture content:
26.8%
(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: 26.8% 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	pH			PH		6.39 pH		6.39 pH	6.39 pH		
2	arsenic { arsenic pentoxide }	033-004-00-6	215-116-9	1303-28-2		18.6 mg/kg	1.534	22.5 mg/kg	0.00225 %	✓	
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		64 mg/kg	1.126	56.827 mg/kg	0.00568 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	186 mg/kg		146.688 mg/kg	0.0147 %	✓	
6	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		2.2 mg/kg		1.735 mg/kg	0.000174 %	✓	
7	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		23.3 mg/kg	5.324	97.836 mg/kg	0.00978 %	✓	
8	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**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		75 mg/kg	1.245	73.623 mg/kg	0.00736 %	✓	
10	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.3 mg/kg	1.923	<0.577 mg/kg	<0.0000577 %		<**LOD**
11	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**
12	benzene	601-020-00-8	200-753-7	71-43-2		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
13	toluene	601-021-00-3	203-625-9	108-88-3		14 µg/kg		0.011 mg/kg	0.0000011 %	✓	
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		o-xylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-022-00-9	202-422-2	95-47-6									
16		TPH (C6 to C40) petroleum group				158	mg/kg		124.606	mg/kg	0.0125 %	✓	
				TPH									
17		asbestos				0.019	%		0.015	%	0.015 %	✓	
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
18		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				36.5	mg/kg	1.462	42.072	mg/kg	0.00421 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0716 %		

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 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and £ 75 °C;"
Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: No free phase present.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 1.1e-06%)

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0125%)

Appendix A: Classifier defined and non GB MCL determinands

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: None.

- **cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex**

GB MCL index number: 048-001-00-5
Description/Comments: Worst Case: IARC considers cadmium compounds Group 1; Carcinogenic to humans
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 1 (23, Sup 7, 100C) 2012

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

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

Description/Comments: Data from ECHACHEM; notifications <1% & outliers (H360, H413) ignored
Data source: https://chem.echa.europa.eu/100.013.783/overview
Data source date: 16 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Resp. Sens. 1; H334

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

Description/Comments: Data from ECHACHEM; notifications <1% & outliers (H360, H413) ignored
Data source: https://chem.echa.europa.eu/100.013.783/overview
Data source date: 16 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Resp. Sens. 1; H334

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

GB MCL index number: 601-023-00-4
Description/Comments: IARC considers ethylbenzene Group 2B; Possibly carcinogenic to humans;
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
03 Jun 2026 - Carc. 2; H351 hazard statement sourced from:: IARC Group 2B (77) 2000

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

Description/Comments: Unknown Oil
Hazard statements taken from WM3 version 1.1.NI and 1.2.GB 2021
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic pentoxide}

Worst case

cadmium {cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex}

Cadmium results not speciated.

copper {dicopper oxide; copper (I) oxide}

Copper results not speciated.

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

Lead results not speciated.

mercury {mercury}

Worst case

nickel {nickel diiodide}

Worst case

selenium {nickel selenate}

Worst case

zinc {zinc oxide}

Zinc results not speciated.

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

Chromium(VI) compounds not speciated.

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Chromium (III) compounds not speciated.

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

Worst case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2026.165.7172.12905 (14 Jun 2026)
HazWasteOnline Database: 2026.165.7172.12905 (14 Jun 2026)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

APPENDIX 13 - Contaminated Land 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.

