



APPENDIX 6 - Coal Authority Report



The Coal  
Authority

# CON29M

## coal mining report

CHERRY TREE SURGERY, 132 UPPER COMMERCIAL STREET, BATLEY, KIRKLEES  
WF17 5DH



### Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5



### Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit  
[www.groundstability.com](http://www.groundstability.com)



### Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **3252**  
Our reference: **51002774172001**  
Date: **8 December 2021**

Client name:  
**james roberts**

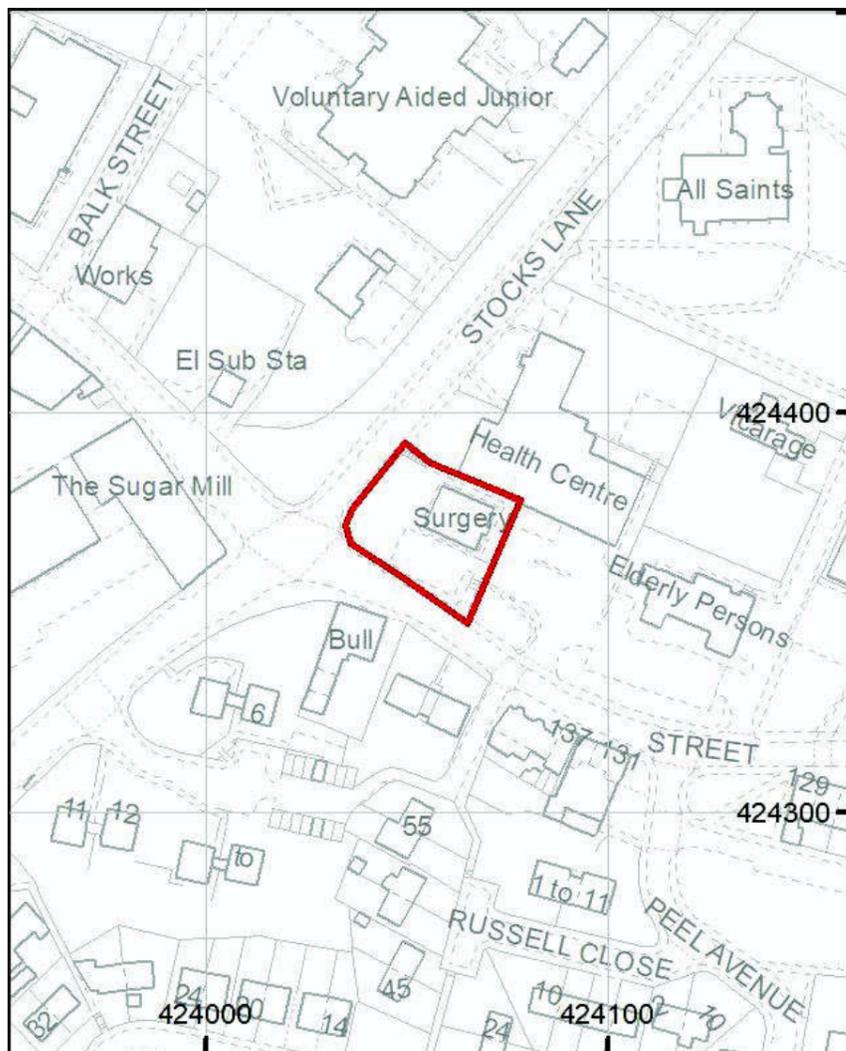
If you require any further assistance please  
contact our experts on:  
**0345 762 6848**  
[groundstability@coal.gov.uk](mailto:groundstability@coal.gov.uk)



# Enquiry boundary

## Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



## Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email [communications@coal.gov.uk](mailto:communications@coal.gov.uk).

# Professional opinion



## Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **[cmra@coal.gov.uk](mailto:cmra@coal.gov.uk)**.

# Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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## 1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 1 seam of coal at 100m depth, and last worked in 1890.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

In addition the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

## 2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

## 3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

## 4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

## 5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

## 6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

## 7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

## 8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

## 9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

## 10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

## 11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

## 12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

## 13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## 14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

# Statutory cover



## Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner (“the owner”) is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

[www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form](http://www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form)



## Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: [www.gov.uk/coalauthority](http://www.gov.uk/coalauthority).

# Glossary



## Key terms

**adit** - horizontal or sloped entrance to a mine

**coal mining subsidence** - ground movement caused by the removal of coal by underground mining

**Coal Mining Subsidence Act 1991** - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

**coal mining subsidence damage** - damage to land, buildings or structures caused by the removal of coal by underground mining

**coal seams** - bed of coal of varying thickness

**future opencast coal mining** - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

**future underground coal mining** - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

**mine entries** - collective name for shafts and adits

**payments to owners of former copyhold land** - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

**shaft** - vertical entry into a mine

**site investigation** - investigations of coal mining risks carried out with the Coal Authority's permission

**stop notice** - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

**subsidence claim** - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

**withdrawal of support** - a historic notice informing landowners that the coal beneath their property was going to be worked

**working facilities orders** - a court order which gave permission, restricted or prevented coal mine workings



APPENDIX 7 - 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 8 - Exploratory Hole Logs



# Borehole Log

Borehole No.

**WS01**

Sheet 1 of 1

Project Name: CHERRY TREE SURGERY	Project No. GRO-22384	Co-ords: -	Hole Type WS
Location: BATLEY	Level:		Scale 1:25
Client: A TO Z MEDICAL INSTRUMENTS	Dates: 21/11/2022 -		Logged By CJH

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	ES		0.25		MADE GROUND: Grass over brown gravelly sandy topsoil. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and plastic. Sand is fine to coarse. Large roots present.	
		0.50	ES				MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and roots.	
		1.20		N=20 (3,5/4,6,5,5)	1.00		Extremely weak light brown MUDSTONE residually weathered recovered as firm very gravelly clay. Gravel is angular to subangular fine to medium of mudstone.	
		1.50	D					
		2.00		N=49 (6,7/9,13,13,14)	2.00		Extremely weak dark brown MUDSTONE destructured recovered as very clayey angular to subangular fine to medium gravel of mudstone. <i>Between 2.1m and 3.0m bgl recovered with brown mottled orange grey colouration.</i>	
		3.00		N=20 (4,5/4,5,5,6)	3.00			
		3.10	D					
		3.50	D					
		4.00		N=24 (6,5/6,7,5,6)	4.00			
		4.45			4.45		End of borehole at 4.45 m	

Remarks  
 1. Utility clearance undertaken at location. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Falling head test conducted. 5. Monitoring standpipe installed to 4.0m bgl (1m plain, 3m slotted).





# Borehole Log

Borehole No.

**WS02**

Sheet 1 of 1

Project Name: CHERRY TREE SURGERY

Project No.  
GRO-22384

Co-ords: -

Hole Type  
WS

Location: BATLEY

Level:

Scale  
1:25

Client: A TO Z MEDICAL INSTRUMENTS

Dates: 21/11/2022 -

Logged By  
CJH

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: Grass over brown gravelly sandy topsoil. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and plastic. Sand is fine to coarse. Large roots present.	
		0.50	D				MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and roots.	
		1.20		N=21 (4,6/5,5,5,6)	1.00		Extremely weak light brown MUDSTONE residually weathered recovered as very clayey angular to subangular fine to medium gravel of mudstone and ironstone with some flecks of coal.	
		1.50	D					
		2.00		N=50 (8,10/50 for 230mm)				
					2.45		End of borehole at 2.45 m	

Remarks  
1. Utility clearance undertaken at location. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Monitoring standpipe installed to 2.0m bgl (1m plain, 1m slotted).





# Borehole Log

Borehole No.

**WS03**

Sheet 1 of 1

Project Name: CHERRY TREE SURGERY

Project No.  
GRO-22384

Co-ords: -

Hole Type  
WS

Location: BATLEY

Level:

Scale  
1:25

Client: A TO Z MEDICAL INSTRUMENTS

Dates: 21/11/2022 -

Logged By  
CJH

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: Grass over brown gravelly sandy topsoil. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and plastic. Sand is fine to coarse. Large roots present.	
		0.50	D				MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, sandstone and roots.	
		1.32		N=20 (4,5/5,5,5,5)	1.00		Extremely weak light brown MUDSTONE residually weathered recovered as very clayey angular to subangular fine to medium gravel of mudstone and ironstone with some flecks of coal.	
		1.50	D					
		2.00		N=50 (7,9/50 for 235mm)	2.00			
				2.45			End of borehole at 2.45 m	

Remarks  
1. Utility clearance undertaken at location. 2. Hand dug pit to 1.2m bgl. 3. No groundwater encountered. 4. Monitoring standpipe installed to 2.0m bgl (1m plain, m slotted).





## APPENDIX 9 - Geo-Environmental Testing Results



**Connor Hastings**  
Groundtech Consulting Ltd  
First Floor, Lloyd House  
Oxford Court  
Greenfold Way  
WN7 3XJ

**t:** 07449819886  
**e:** cjh@groundtechconsulting.com

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

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

## **Analytical Report Number : 22-11091**

Replaces Analytical Report Number: 22-11091, issue no. 1  
Additional analysis undertaken.

<b>Project / Site name:</b>	Cherry Tree Surgery	<b>Samples received on:</b>	01/12/2022
<b>Your job number:</b>	GRO-22384	<b>Samples instructed on/ Analysis started on:</b>	01/12/2022
<b>Your order number:</b>		<b>Analysis completed by:</b>	18/01/2023
<b>Report Issue Number:</b>	2	<b>Report issued on:</b>	26/01/2023
<b>Samples Analysed:</b>	9 soil samples		

Adam Fenwick  
Technical Reviewer  
**For & on behalf of i2 Analytical Ltd.**

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

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

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

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

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

Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

Lab Sample Number	2520088				2520089				2520090				2520091				2520092			
Sample Reference	WS01				WS02				WS03				HP01				HP02			
Sample Number	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Depth (m)	0.15				0.50				0.50				0.10				0.15			
Date Sampled	21/11/2022				21/11/2022				21/11/2022				21/11/2022				21/11/2022			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																	
Stone Content	%	0.1	NONE	< 0.1				< 0.1				< 0.1								
Moisture Content	%	0.01	NONE	13				21				14								
Total mass of sample received	kg	0.001	NONE	0.8				0.8				0.8								

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	Crocidolite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	< 0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	SPU

#### General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	7.7	8.0	7.7	8.1
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	54	38	170	65	80
Water soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.019	0.087	0.033	0.04
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	27.2	19.2	87.1	32.6	40.2
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	2.9	5.4	5.2	5	4.7
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	-

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.82	0.69	3.2	1.2	0.78
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.06	0.14	0.09	0.07
Acenaphthene	mg/kg	0.05	MCERTS	0.28	0.52	1.6	0.57	0.38
Fluorene	mg/kg	0.05	MCERTS	0.16	0.36	1.1	0.43	0.29
Phenanthrene	mg/kg	0.05	MCERTS	1.9	3.9	8.5	3.8	3.1
Anthracene	mg/kg	0.05	MCERTS	0.32	0.75	1.5	0.72	0.59
Fluoranthene	mg/kg	0.05	MCERTS	2.7	4.5	9	5	4.3
Pyrene	mg/kg	0.05	MCERTS	2.5	4.1	7.7	4.6	3.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	2.1	4.4	2.8	2.2
Chrysene	mg/kg	0.05	MCERTS	1.4	2.2	3.1	2	2.1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.3*	1.8	4	2.9	2.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.65	1.2	1.4	0.93	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.2	1.8	3.2	2.2	2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.54	0.81	1.4	1.1	0.96
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	0.23	0.35	0.27	0.29
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.67	0.93	1.8	1.2	1.1

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	15.9	26	52.4	29.6	25.4
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#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	33	39	37	42
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	38	38	35	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73	98	100	100	350
Lead (aqua regia extractable)	mg/kg	1	MCERTS	83	110	100	130	120
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	36	29	32	33

Analytical Report Number: 22-11091  
 Project / Site name: Cherry Tree Surgery

Lab Sample Number				2520088	2520089	2520090	2520091	2520092
Sample Reference				WS01	WS02	WS03	HP01	HP02
Sample Number				None Supplied				
Depth (m)				0.15	0.50	0.50	0.10	0.15
Date Sampled				21/11/2022	21/11/2022	21/11/2022	21/11/2022	21/11/2022
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	140	150	160	260
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected  
 \*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted.  
 The result should be considered as being deviating and therefore may be unreliable.

Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

Lab Sample Number	2520093	2520094	2520095	2520096			
Sample Reference	HP03	WS01	WS02	WS03			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	0.50	3.10	1.50	1.50			
Date Sampled	21/11/2022	21/11/2022	21/11/2022	21/11/2022			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	13	16	11
Total mass of sample received	kg	0.001	NONE	0.8	0.5	0.5	0.5

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	N/A	N/A	N/A

#### General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.0	7.9	7.8	7.9
Total Sulphate as SO4	%	0.005	MCERTS	-	0.037	0.022	0.036
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	120	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.062	0.14	0.067	0.11
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	61.6	136	66.6	115
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	5.9	5.3	5.3
Total Sulphur	%	0.005	MCERTS	-	0.018	0.011	0.017
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Organic Matter (automated)	%	0.1	MCERTS	5.2	-	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	< 2.0	< 2.0	< 2.0

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	2.8*	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	1.4*	-	-	-
Fluorene	mg/kg	0.05	MCERTS	0.93*	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	8.8*	-	-	-
Anthracene	mg/kg	0.05	MCERTS	1.6	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	10*	-	-	-
Pyrene	mg/kg	0.05	MCERTS	8.5*	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.1	-	-	-
Chrysene	mg/kg	0.05	MCERTS	4.1	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	4.1*	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4*	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.5	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4*	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.4*	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6*	-	-	-

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	54.9	-	-	-
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#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	40	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	-	-	-

Analytical Report Number: 22-11091  
 Project / Site name: Cherry Tree Surgery

Lab Sample Number				2520093	2520094	2520095	2520096
Sample Reference				HP03	WS01	WS02	WS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	3.10	1.50	1.50
Date Sampled				21/11/2022	21/11/2022	21/11/2022	21/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	-	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	39	26	51
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	20	13	26

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected  
 \*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted.  
 The result should be considered as being deviating and therefore may be unreliable.



**Analytical Report Number:** 22-11091  
**Project / Site name:** Cherry Tree Surgery  
**Your Order No:**

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## Certificate of Analysis - Asbestos Quantification

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### Methods:

#### Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

#### Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2520090	WS03	0.50	110	Loose Fibres	<b>Chrysotile</b>	< 0.001	< <b>0.001</b>
2520091	HP01	0.10	108	Loose Fibres	<b>Crocidolite</b>	< 0.001	< <b>0.001</b>

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

**Analytical Report Number : 22-11091**

**Project / Site name: Cherry Tree Surgery**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2520088	WS01	None Supplied	0.15	Brown clay and sand with gravel and chalk.
2520089	WS02	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520090	WS03	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520091	HP01	None Supplied	0.1	Brown clay and sand with gravel and vegetation.
2520092	HP02	None Supplied	0.15	Brown clay and sand with gravel and vegetation.
2520093	HP03	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520094	WS01	None Supplied	3.1	Brown clay with vegetation.
2520095	WS02	None Supplied	1.5	Brown clay and sand.
2520096	WS03	None Supplied	1.5	Brown clay and sand with gravel.

Analytical Report Number : 22-11091  
Project / Site name: Cherry Tree Surgery

**Water matrix abbreviations:**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS



Analytical Report Number : 22-11091  
 Project / Site name: Cherry Tree Surgery

**Water matrix abbreviations:**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC. Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



**Connor Hastings**  
Groundtech Consulting Ltd  
First Floor, Lloyd House  
Oxford Court  
Greenfold Way  
WN7 3XJ

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

**t:** 07449819886

**t:** 01923 225404

**e:** cjh@groundtechconsulting.com

**f:** 01923 237404

**e:** reception@i2analytical.com

## **Analytical Report Number : 22-11091**

<b>Project / Site name:</b>	Cherry Tree Surgery	<b>Samples received on:</b>	01/12/2022
<b>Your job number:</b>	GRO-22384	<b>Samples instructed on/ Analysis started on:</b>	01/12/2022
<b>Your order number:</b>		<b>Analysis completed by:</b>	14/12/2022
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	15/12/2022
<b>Samples Analysed:</b>	9 soil samples		

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

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

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

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

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

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

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

Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

Lab Sample Number				2520088	2520089	2520090	2520091	2520092
Sample Reference				WS01	WS02	WS03	HP01	HP02
Sample Number				None Supplied				
Depth (m)				0.15	0.50	0.50	0.10	0.15
Date Sampled				21/11/2022	21/11/2022	21/11/2022	21/11/2022	21/11/2022
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	21	14	16	14
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile- Loose Fibres	Crocidolite- Loose Fibres	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	SPU

#### General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.7	8	7.7	8.1
Total Sulphate as SO4	%	0.005	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	54	38	170	65	80
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.019	0.087	0.033	0.04
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	27.2	19.2	87.1	32.6	40.2
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	2.9	5.4	5.2	5	4.7
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	-

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.82	0.69	3.2	1.2	0.78
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.06	0.14	0.09	0.07
Acenaphthene	mg/kg	0.05	MCERTS	0.28	0.52	1.6	0.57	0.38
Fluorene	mg/kg	0.05	MCERTS	0.16	0.36	1.1	0.43	0.29
Phenanthrene	mg/kg	0.05	MCERTS	1.9	3.9	8.5	3.8	3.1
Anthracene	mg/kg	0.05	MCERTS	0.32	0.75	1.5	0.72	0.59
Fluoranthene	mg/kg	0.05	MCERTS	2.7	4.5	9	5	4.3
Pyrene	mg/kg	0.05	MCERTS	2.5	4.1	7.7	4.6	3.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	2.1	4.4	2.8	2.2
Chrysene	mg/kg	0.05	MCERTS	1.4	2.2	3.1	2	2.1
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.3*	1.8	4	2.9	2.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.65	1.2	1.4	0.93	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.2	1.8	3.2	2.2	2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.54	0.81	1.4	1.1	0.96
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	0.23	0.35	0.27	0.29
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.67	0.93	1.8	1.2	1.1

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	15.9	26	52.4	29.6	25.4
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Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

<b>Lab Sample Number</b>	2520088				2520089	2520090	2520091	2520092
<b>Sample Reference</b>	WS01				WS02	WS03	HP01	HP02
<b>Sample Number</b>	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
<b>Depth (m)</b>	0.15				0.50	0.50	0.10	0.15
<b>Date Sampled</b>	21/11/2022				21/11/2022	21/11/2022	21/11/2022	21/11/2022
<b>Time Taken</b>	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	33	39	37	42
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	38	38	35	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73	98	100	100	350
Lead (aqua regia extractable)	mg/kg	1	MCERTS	83	110	100	130	120
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	36	29	32	33
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	140	150	160	260
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

\*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted and the failure justified as having no significant impact on sample data reported.

Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

Lab Sample Number				2520093	2520094	2520095	2520096
Sample Reference				HP03	WS01	WS02	WS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	3.10	1.50	1.50
Date Sampled				21/11/2022	21/11/2022	21/11/2022	21/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	13	16	11
Total mass of sample received	kg	0.001	NONE	0.8	0.5	0.5	0.5

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	N/A	N/A	N/A

#### General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	7.9	7.8	7.9
Total Sulphate as SO4	%	0.005	MCERTS	-	0.037	0.022	0.036
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	120	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.062	0.14	0.067	0.11
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	61.6	136	66.6	115
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	5.9	5.3	5.3
Total Sulphur	%	0.005	MCERTS	-	0.018	0.011	0.017
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Organic Matter (automated)	%	0.1	MCERTS	5.2	-	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	< 2.0	< 2.0	< 2.0

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	2.8*	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	1.4*	-	-	-
Fluorene	mg/kg	0.05	MCERTS	0.93*	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	8.8*	-	-	-
Anthracene	mg/kg	0.05	MCERTS	1.6	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	10*	-	-	-
Pyrene	mg/kg	0.05	MCERTS	8.5*	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.1	-	-	-
Chrysene	mg/kg	0.05	MCERTS	4.1	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	4.1*	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4*	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.5	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4*	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.4*	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6*	-	-	-

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	54.9	-	-	-
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Analytical Report Number: 22-11091  
Project / Site name: Cherry Tree Surgery

Lab Sample Number				2520093	2520094	2520095	2520096
Sample Reference				HP03	WS01	WS02	WS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	3.10	1.50	1.50
Date Sampled				21/11/2022	21/11/2022	21/11/2022	21/11/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
<b>Heavy Metals / Metalloids</b>							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	40	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	36	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	-	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	39	26	51
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	20	13	26

U/S = Unsuitable Sample I/S = Insufficient Sample

\*Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted and the failure justified as having no significant impact on sample data reported.

**Analytical Report Number : 22-11091**

**Project / Site name: Cherry Tree Surgery**

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2520088	WS01	None Supplied	0.15	Brown clay and sand with gravel and chalk.
2520089	WS02	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520090	WS03	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520091	HP01	None Supplied	0.1	Brown clay and sand with gravel and vegetation.
2520092	HP02	None Supplied	0.15	Brown clay and sand with gravel and vegetation.
2520093	HP03	None Supplied	0.5	Brown clay and sand with gravel and vegetation.
2520094	WS01	None Supplied	3.1	Brown clay with vegetation.
2520095	WS02	None Supplied	1.5	Brown clay and sand.
2520096	WS03	None Supplied	1.5	Brown clay and sand with gravel.

**Analytical Report Number : 22-11091**  
**Project / Site name: Cherry Tree Surgery**

**Water matrix abbreviations:**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Ammonium as NH <sub>4</sub> in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE

**Analytical Report Number : 22-11091**  
**Project / Site name: Cherry Tree Surgery**

**Water matrix abbreviations:**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

**For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).**

**For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).**

**For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

**Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.**



## APPENDIX 10 - Geotechnical Testing Results



# LABORATORY REPORT



4043

**Contract Number: PSL22/7709**

Report Date: 16 December 2022

Client's Reference:

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

**For the attention of: Connor Hastings**

Contract Title: Cherry Tree Surgery

Date Received: 2/12/2022

Date Commenced: 2/12/2022

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

Checked and Approved Signatories:

A Watkins  
(Director)

R Berriman  
(Quality Manager)

S Royle  
(Laboratory Manager)

L Knight  
(Assistant Laboratory Manager)

S Eyre  
(Senior Technician)

M Fennell  
(Senior Technician)

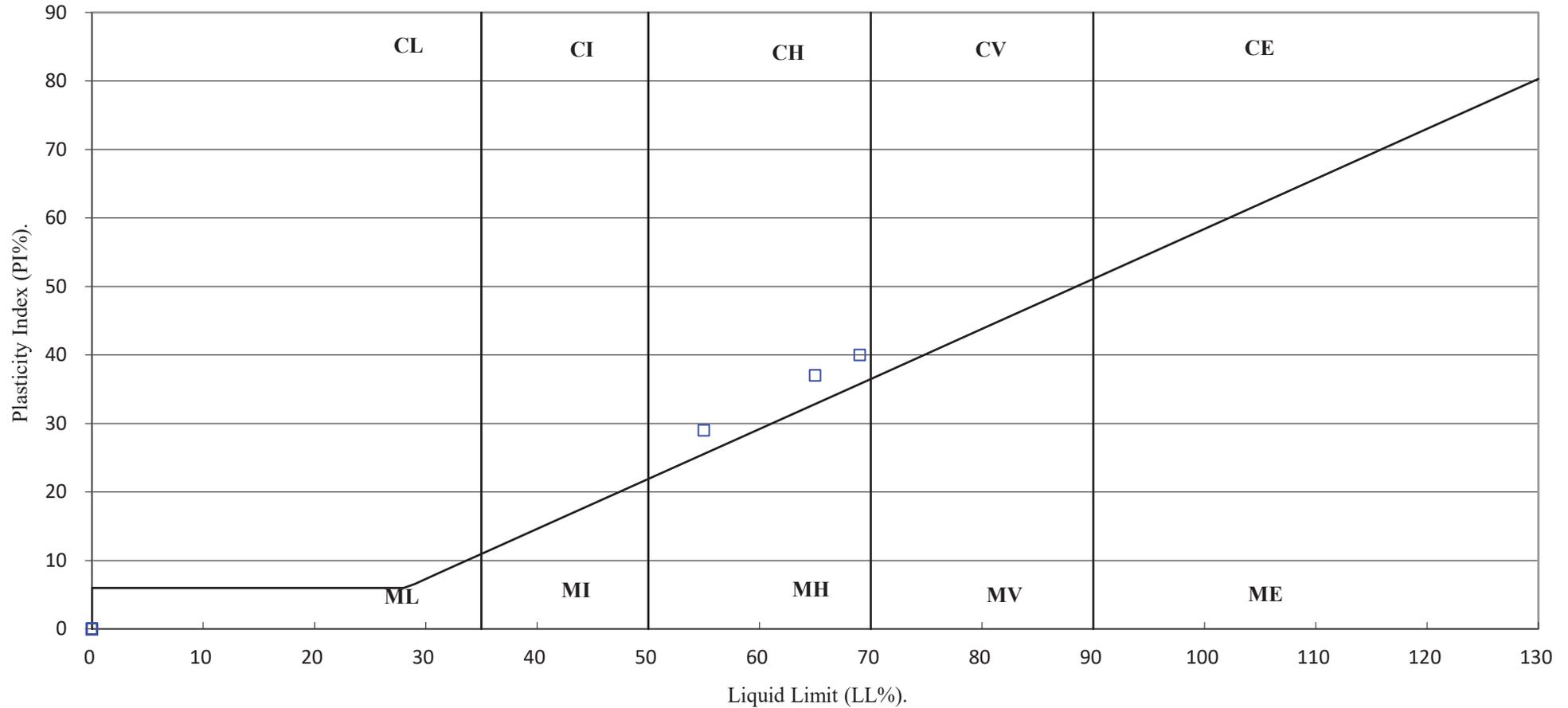
5 – 7 Hexthorpe Road, Hexthorpe,  
Doncaster DN4 0AR  
tel: +44 (0)844 815 6641  
fax: +44 (0)844 815 6642  
e-mail: rberriman@prosoils.co.uk  
awatkins@prosoils.co.uk

Page 1 of





# PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



4043

**PSL**  
Professional Soils Laboratory

Cherry Tree Surgery

Contract No:

PSL22/7709

Client Ref:



## APPENDIX 11 - Interim Permanent Gas Monitoring Results

## PERMANENT GROUND GAS MONITORING FORM



<b>SITE NAME:</b>	CHERRY TREE SURGERY				<b>ENGINEER:</b>	William Sandiford Mitchell			
<b>CLIENT:</b>	DYSE STRUCTURAL ENGINEERS				<b>DATE:</b>	02/02/2023			
<b>JOB NO:</b>	GRO-22384								
<b>Pressure Trend:</b>	Steady	<b>Weather:</b>	Overcast			<b>Equipment:</b>	GFM 436		
<b>Ambient:</b>	O <sub>2</sub> (%v/v)	CH <sub>4</sub> (%v/v)	CO <sub>2</sub> (%v/v)	LEL	H <sub>2</sub> S (ppm)	CO (ppm)			
<b>Start</b>	20.7	0.0	0.0	0.0	0.0	0.0			
<b>Finish</b>	20.7	0.0	0.0	0.0	0.0	0.0			

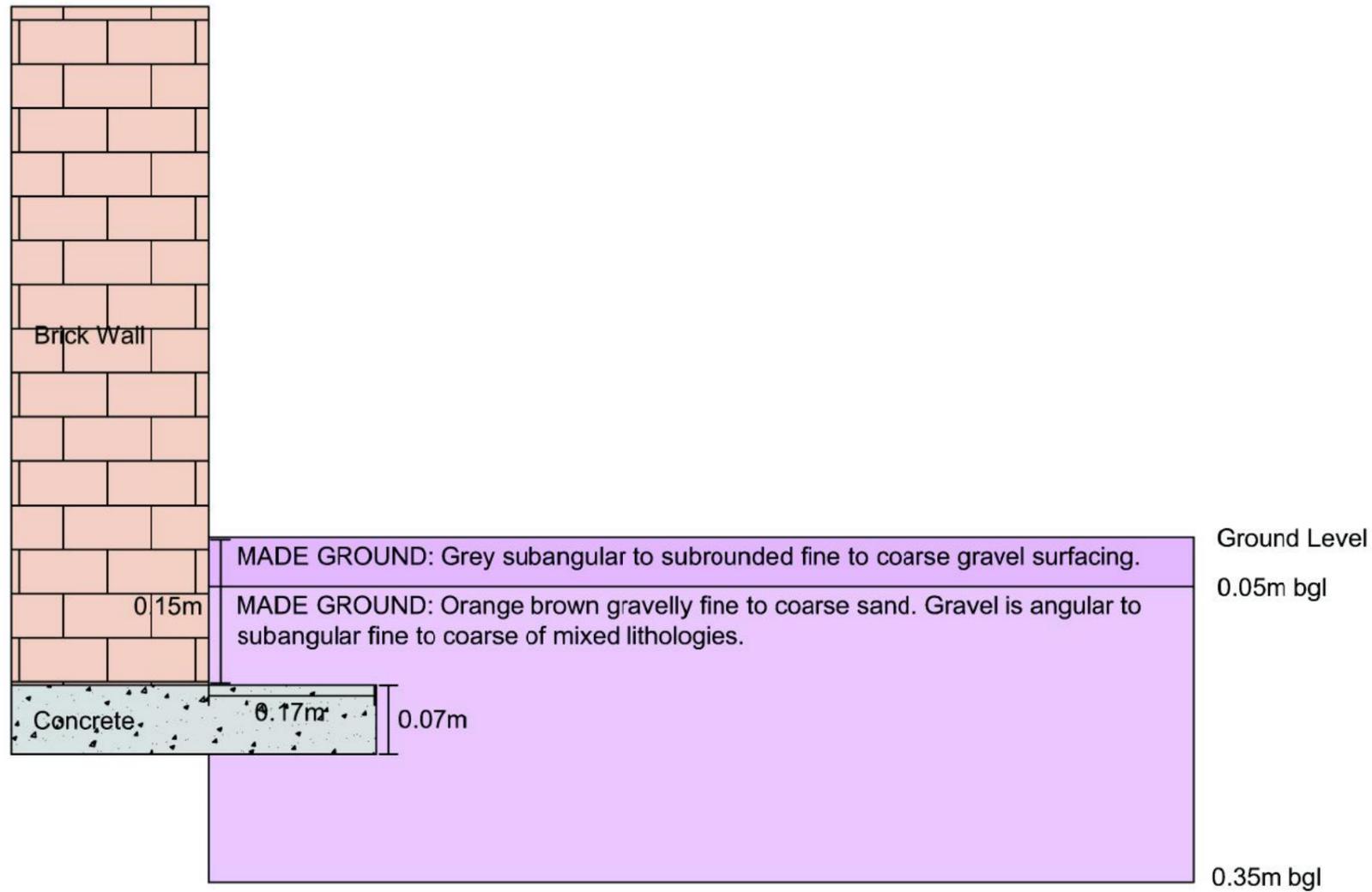
BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q <sub>hg</sub> CO <sub>2</sub> (l/hr)	Q <sub>hg</sub> CH <sub>4</sub> (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	LNAPL (Y/N)	DNAPL (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady								
WS01	0.0	0.0	0.00	0.0	0.0	0.0	1.7	1.5	19.1	19.7	0.0	0.0	0.0	0.0	0.0017	0.0000	1013	-	N	N/A	N/A	NGW
WS02	0.0	0.0	0.00	0.0	0.0	0.0	1.2	1.2	19.4	19.6	0.0	0.0	0.0	0.0	0.0012	0.0000	1014	-	N	N/A	N/A	NGW
WS03	0.0	0.0	0.00	0.0	0.0	0.0	1.1	1.2	19.6	19.8	0.0	0.0	0.0	0.0	0.0011	0.0000	1013	-	N	N/A	N/A	NGW

Notes:

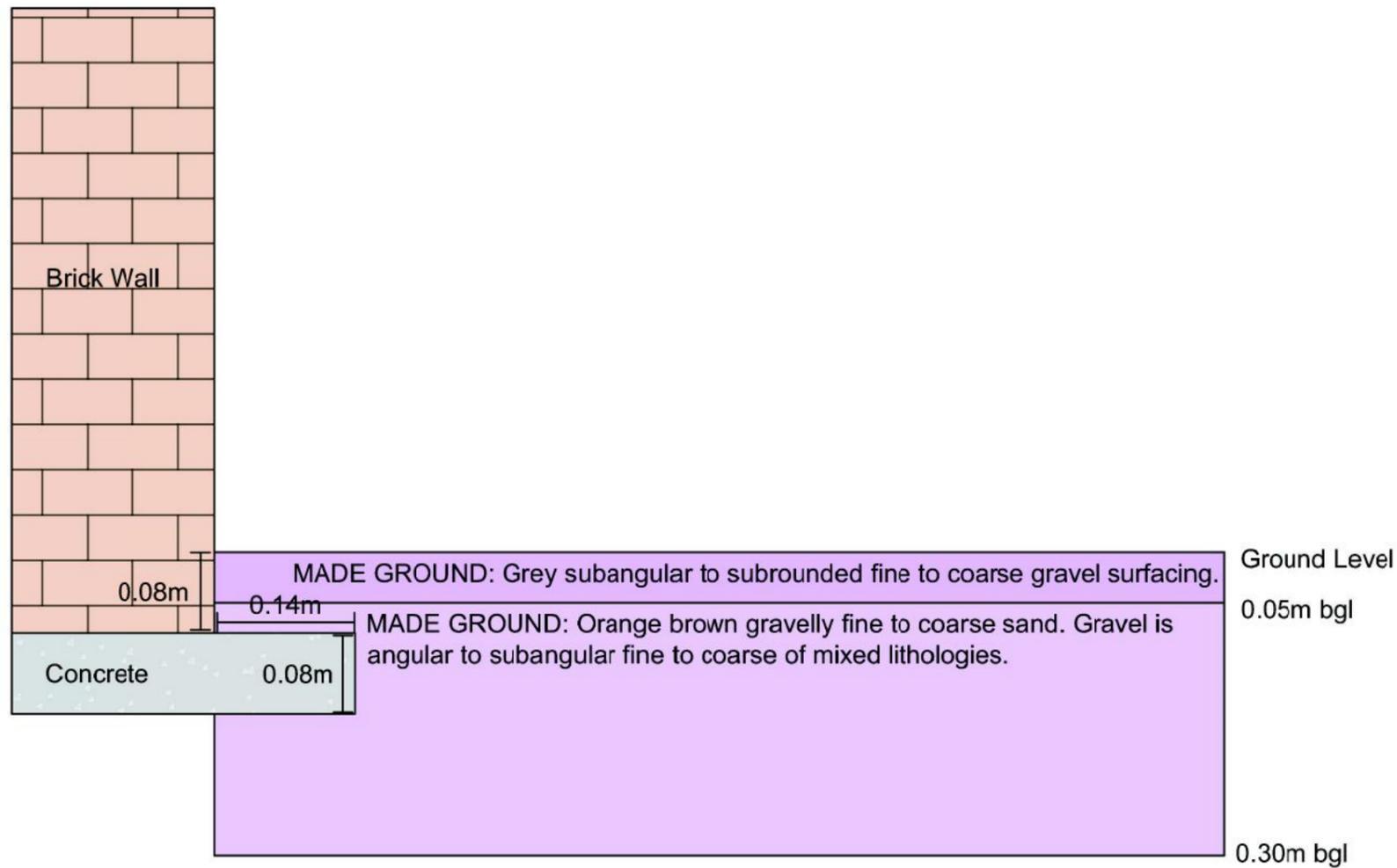


APPENDIX 12 - Foundation Cross Sections

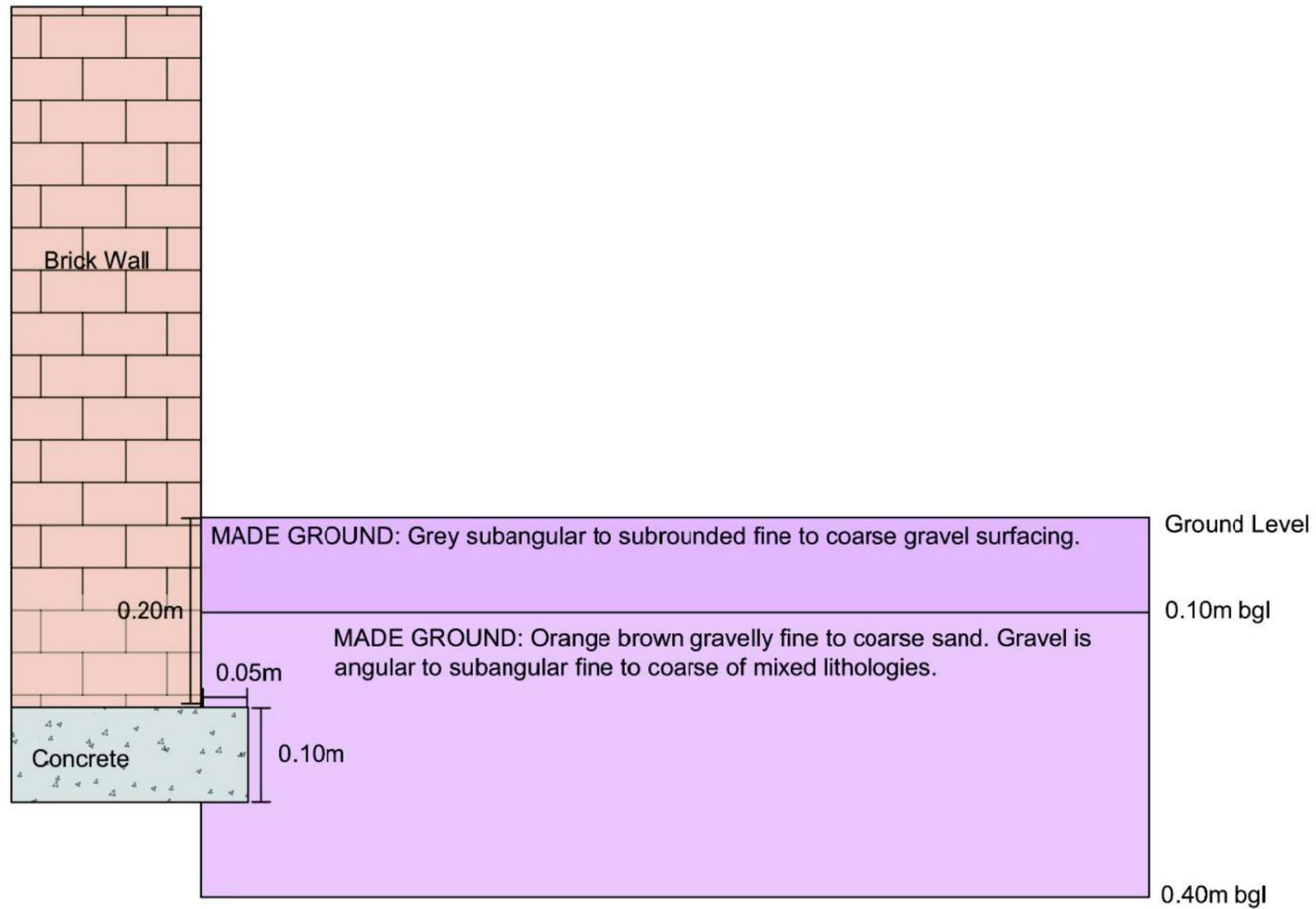
# HP01



# HP02

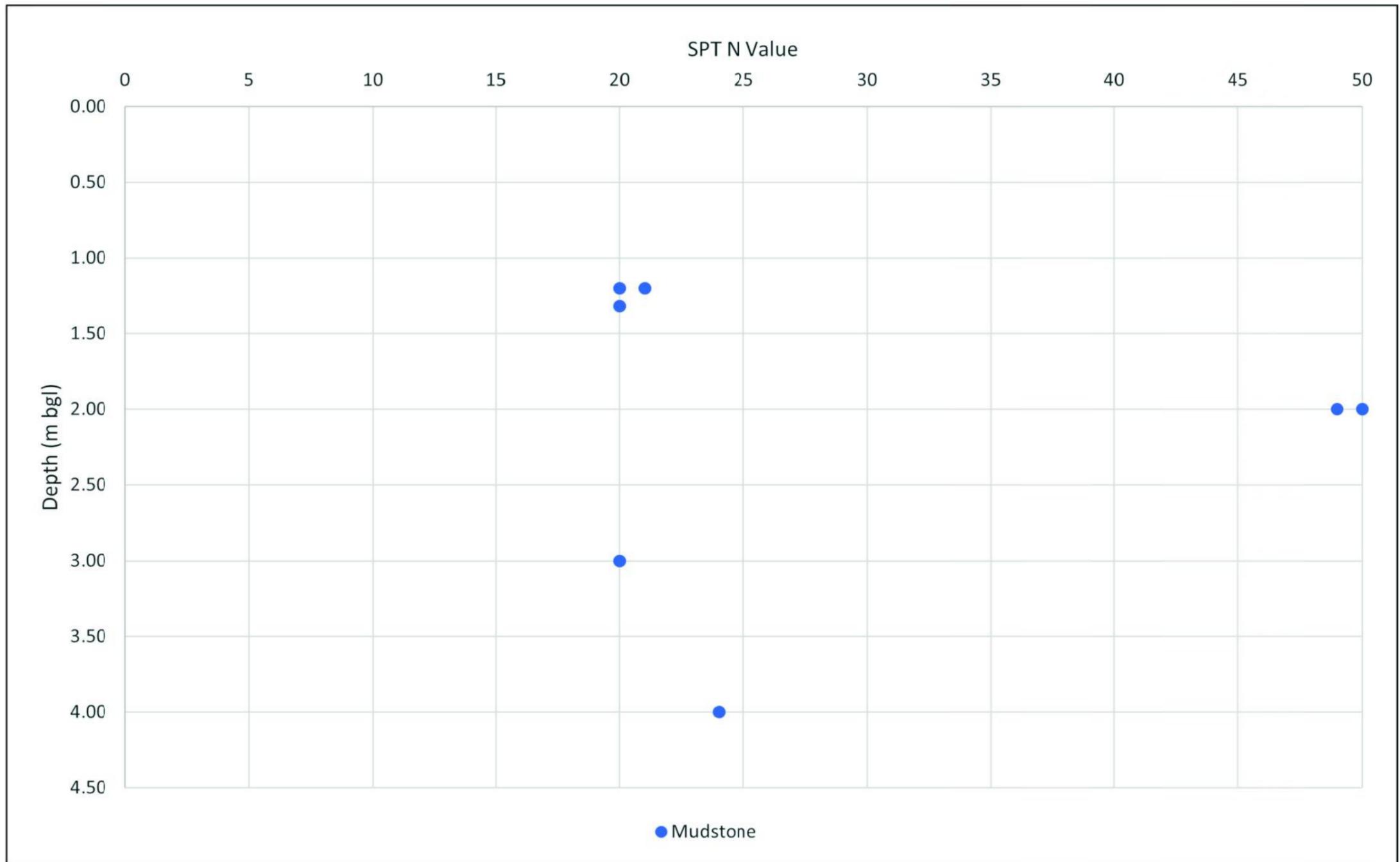


# HP03





APPENDIX 13 - Generalised Ground Model



**CLIENT**  
A TO Z MEDICAL INSTRUMENTS

**PROJECT TITLE**  
CHERRY TREE SURGERY

**PLAN TITLE**  
GENERALISED GROUND MODEL

**DATE**  
JANUARY 2023

**SCALE**  
NTS

**PLAN NUMBER**  
GRO-22384-P05

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes





APPENDIX 14 - Falling Head Test Results

VARIABLE HEAD PERMEABILITY TEST



Sheet 1 of 2

Date of Test: 21/11/2022      Type of Test: Falling Head      Position: WS01      Engineer: Connor Hastings      Weather: Overcast/Rain

Test Measurements

Test Data

Depth below top of casing/standpipe to:			Time Elapsed (mins)	Depth to Water Level (m)
(i) bottom of borehole:	3.00	m	0	0.00
(ii) bottom of casing:	1.00	m	0.5	0.03
(iii) top of filter material:	1.00	m	1	0.05
(iv) centre of piezometer tip:	-	m	1.5	0.06
(v) initial groundwater level:	-	m	2	0.07
			2.5	0.09
Height of casing/standpipe above surface	-	m	3	0.10
Elevation of casing/standpipe (AOD)	-	m	3.5	0.12
			4	0.13
Diameter of casing/standpipe	0.10	m	4.5	0.15
Length of filter	2.00	m	5	0.17
Diameter of filter	0.10	m	6	0.18
			7	0.19
			8	0.19
			9	0.19
			10	0.20
			15	0.21
			20	0.21
			25	0.21
			30	0.22
			35	0.22
			40	0.22
			50	0.22
			60	0.23

VARIABLE HEAD PERMEABILITY TEST

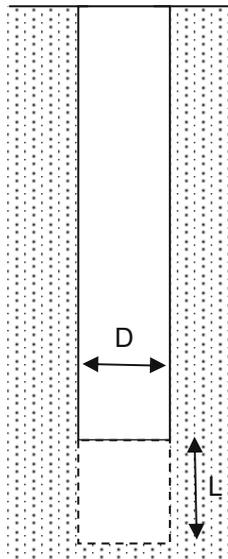
Sheet 2 of 2

Borehole WS01

By: CJH Checked: RW

Variable Head Permeability Test in accordance with BS 5930

Calculation of Intake Factor (F)



Area of base (A) = 0.01 m<sup>2</sup>

Diameter (D) = 0.10 m

Length (L) = 2.00 m

$$F = \frac{2 \pi L}{\ln \left\{ \left( \frac{L}{D} \right) + \sqrt{1 + \left( \frac{L}{D} \right)^2} \right\}}$$

$$F = \frac{12.566}{3.690}$$

$$F = 3.406$$

Calculation of Infiltration Rate

At time = 1 mins (t<sub>1</sub>) Depth to water = 0.05 m

t<sub>1</sub> = 60 sec

Depth to base of borehole = 2.00 m

Depth of Water (H<sub>1</sub>) = 1.95 m

At time = 60 mins (t<sub>2</sub>) Depth to water = 0.23 m

t<sub>2</sub> = 3600 sec

Depth to base of borehole = 2.00 m

Depth of Water (H<sub>2</sub>) = 1.77 m

$$k = \frac{A}{F(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

$$k = \frac{0.01}{12057} \ln \frac{1.95}{1.77}$$

$$k = 6.31E-08 \text{ m/s}$$



## APPENDIX 15 - Generic Screening Values (Commercial)

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	32	32	32	640	640	640	SGVs
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	10	10	10	230	230	230	SGVs
Chromium (Total)	mg/kg	910	910	910	8600	8600	8600	LQM S4ULs
Chromium (VI)	mg/kg	21	21	21	49	49	49	DEFRA C4SLs
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	350	350	350	13000	13000	13000	SGVs
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) <sup>sof</sup>	5900 (558) <sup>sof</sup>	12000 (1150) <sup>sof</sup>	LQM S4ULs
Aliphatic EC 6 - 8	mg/kg	100	230	530	7800 (144) <sup>sof</sup>	17000 (322) <sup>sof</sup>	40000 (736) <sup>sof</sup>	LQM S4ULs
Aliphatic EC 8 - 10	mg/kg	27	65	150	2000 (78) <sup>sof</sup>	4800 (190) <sup>sof</sup>	11000 (451) <sup>sof</sup>	LQM S4ULs
Aliphatic EC 10 - 12	mg/kg	130 (48) <sup>vop</sup>	330 (118) <sup>vop</sup>	760 (283) <sup>vop</sup>	9700 (48) <sup>sof</sup>	23000 (118) <sup>vop</sup>	47000 (283) <sup>vop</sup>	LQM S4ULs
Aliphatic EC 12 - 16	mg/kg	1100 (24) <sup>sof</sup>	2400 (59) <sup>sof</sup>	4300 (142) <sup>sof</sup>	59000 (24) <sup>sof</sup>	82000 (59) <sup>sof</sup>	90000 (142) <sup>sof</sup>	LQM S4ULs
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) <sup>f,sof</sup>	92000 (21) <sup>f,sof</sup>	110000 <sup>f</sup>	1600000 <sup>f</sup>	1700000 <sup>f</sup>	1800000 <sup>f</sup>	LQM S4ULs
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) <sup>f,sof</sup>	92000 (21) <sup>f,sof</sup>	110000 <sup>f</sup>	1600000 <sup>f</sup>	1700000 <sup>f</sup>	1800000 <sup>f</sup>	LQM S4ULs
Aromatic EC 5 - 7	mg/kg	70	140	300	26000 (1220) <sup>sof</sup>	46000 (2260) <sup>sof</sup>	86000 (4710) <sup>sof</sup>	LQM S4ULs
Aromatic EC 7 - 8	mg/kg	130	290	660	56000 (869) <sup>vop</sup>	110000 (1920) <sup>vop</sup>	180000 (4360) <sup>vop</sup>	LQM S4ULs
Aromatic EC 8 - 10	mg/kg	34	83	190	3500 (613) <sup>vop</sup>	8100 (1500) <sup>vop</sup>	17000 (3580) <sup>vop</sup>	LQM S4ULs
Aromatic EC 10 - 12	mg/kg	74	180	380	16000 (364) <sup>sof</sup>	28000 (899) <sup>sof</sup>	34000 (2150) <sup>sof</sup>	LQM S4ULs
Aromatic EC 12 -16	mg/kg	140	330	660	36000 (169) <sup>sof</sup>	37000	38000	LQM S4ULs
Aromatic EC 16 - 21	mg/kg	260 <sup>f</sup>	540 <sup>f</sup>	930 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	LQM S4ULs
Aromatic EC 21 - 35	mg/kg	1100 <sup>f</sup>	1500 <sup>f</sup>	1700 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	LQM S4ULs
Aromatic EC 35 - 44	mg/kg	1100 <sup>f</sup>	1500 <sup>f</sup>	1700 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	28000 <sup>f</sup>	LQM S4ULs
Benzene	mg/kg	0.33	0.33	0.33	95	95	95	SGVs
Toluene	mg/kg	610	610	610	4400	4400	4400	SGVs
Ethyl Benzene	mg/kg	350	350	350	2800	2800	2800	SGVs
Xylene - o	mg/kg	250	250	250	2600	2600	2600	SGVs
Xylene - m	mg/kg	240	240	240	3500	3500	3500	SGVs
Xylene - p	mg/kg	230	230	230	3200	3200	3200	SGVs
MTBE (methyl tert-butyl ether)	mg/kg	49	84	160	7900	13000	24000	CL:AIRE 2010
Acenaphthene	mg/kg	210	510	1100	84000 (57) <sup>sof</sup>	97000 (141) <sup>sof</sup>	100000	LQM SAULs
Acenaphthylene	mg/kg	170	420	920	83000 (86.1) <sup>sof</sup>	97000 (212) <sup>sof</sup>	100000	LQM SAULs
Anthracene	mg/kg	2400	5400	11000	520000	540000	540000	LQM SAULs
Benz(a)anthracene	mg/kg	7.2	11	13	170	170	180	LQM SAULs
Benzo(a)pyrene	mg/kg	2.2	2.7	5*	35	35	77*	DEFRA C4SL*/LQM
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	44	44	45	LQM SAULs
Benzo(ghi)perylene	mg/kg	320	340	350	3900	4000	4000	LQM SAULs
Benzo(k)fluoranthene	mg/kg	77	93	100	1200	1200	1200	LQM SAULs
Chrysene	mg/kg	15	22	27	350	350	350	LQM SAULs
Dibenz(ah)anthracene	mg/kg	0.24	0.28	0.3	3.5	3.6	3.6	LQM SAULs
Fluoranthene	mg/kg	280	560	890	23000	23000	23000	LQM SAULs
Fluorene	mg/kg	170	400	860	63000 (30.9) <sup>sof</sup>	68000	71000	LQM SAULs
Indeno(123-cd)pyrene	mg/kg	27	36	41	500	510	510	LQM SAULs
Naphthalene	mg/kg	2.3 <sup>f</sup>	5.6 <sup>f</sup>	13 <sup>f</sup>	190 <sup>f</sup> (76.4) <sup>sof</sup>	460 <sup>f</sup> (183) <sup>sof</sup>	1100 <sup>f</sup> (432) <sup>sof</sup>	LQM SAULs
Phenanthrene	mg/kg	95	220	440	22000	22000	23000	LQM SAULs
Pyrene	mg/kg	620	1200	2000	54000	54000	54000	LQM SAULs

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	420	420	420	3200	3200	3200	SGVs
Chlorophenols	mg/kg	0.87 <sup>9</sup>	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
Tetrachloromethane (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) <sup>vsp</sup>	3.3 (0.5) <sup>vsp</sup>	4.9	110 (0.2) <sup>vsp</sup>	120	120	LQM S4ULs
Pentachlorobenzene	mg/kg	5.8	12	22	640 (43) <sup>sol</sup>	770 (107) <sup>sol</sup>	830	LQM S4ULs
1,2,4,5-Tetrachlorobenzene	mg/kg	0.33	0.77	1.6	42 (19.7) <sup>sol</sup>	72 (49.1) <sup>sol</sup>	96	LQM S4ULs
1,2,3,5-Tetrachlorobenzene	mg/kg	0.66	1.69	3.7	49 (39.4) <sup>vsp</sup>	120 (98.1) <sup>vsp</sup>	240 (235) <sup>vsp</sup>	LQM S4ULs
1,2,3,4-Tetrachlorobenzene	mg/kg	15	36	78	1700 (122) <sup>vsp</sup>	3080 (304) <sup>vsp</sup>	4400 (728) <sup>vsp</sup>	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 <sup>f</sup>	150 <sup>f</sup>	350 <sup>f</sup>	4400 <sup>f</sup> (224) <sup>vsp</sup>	10000 <sup>f</sup> (540)	25000 <sup>f</sup> (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) <sup>sol</sup>	4800 (1370) <sup>sol</sup>	11000 (3240) <sup>sol</sup>	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) <sup>vsp</sup>	7800 (0.0002) <sup>vsp</sup>	8700	LQM S4ULs
Alpha-Endosulfan	mg/kg	7.4	18	41	5600 (0.003) <sup>vsp</sup>	7400 (0.007) <sup>vsp</sup>	8400 (0.016) <sup>vsp</sup>	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

<sup>sol</sup> S4UL exceeds the solubility saturation limit (which is presented in brackets)

<sup>vsp</sup> S4ULs presented exceeds the vapour saturation limit, which is presented in brackets

<sup>f</sup> For naphthalene, the S4UL is based on a comparison of inhalation exposure with the TDI<sub>inh</sub> for localised affects

<sup>f</sup> S4UL based on comparison of inhalation exposure with inhalation TDI for localised effects

<sup>dr</sup> S4ULs based on a threshold protective direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustration only)



APPENDIX 16 - JIWG Receptor Decision Tool

**Decision Support Tool for Receptor Risk Ranking**

Stage 1		Score
<b>Hazard Identification</b>		
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs	Degraded (Significant degradation in ACM; material has lost its basic integrity)	3
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Non-friable ACM or ACM with fibres firmly linked in a matrix	0
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Asbestos fibre type	Mainly amphibole and chrysotile mixtures, including trace crocidolite	2
<b>Sub-total</b>		<b>7</b>
<b>Hazard ranking</b>		<b>Low</b>

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.

Stage 2		Score
Emission Factors		
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Very Low quantities - 0.001 to 0.01 %wt/wt	1
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	No disturbance activity	0
Best description of primary host material matrix	Coarse to Fine Sand	2
Sub-total		5
Exposure ranking		<b>Low</b>

Stage 3		Score
<b>Pathway and Receptor Sensitivity</b>		
Receptor category	Commercial/industrial	No score required
Age of Receptor	Adult (>24 and <60)	1
Duration of exposure/site occupancy	< 1 hour in any single day (e.g. frequent but short exposure event)	1
Receptor ranking		2 <span style="background-color: #90EE90;">Very Low</span>
Combined hazard, exposure and receptor ranking		<span style="background-color: #FFFF00;">Low</span>
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4
Pathway: Depth to impacted material	Material present near the surface, potential to be disturbed during non-construction/routine use of land	D
Pathway ranking		4D <span style="background-color: #FFA500;">Medium</span>
<b>Overall ranking</b>		<span style="background-color: #FF0000; color: white;">Low</span>



**Joint Industry Working Group**

Asbestos in Soil and Construction & Demolition Materials

<b>Project Reference</b>	GRO-22384
<b>Site Name</b>	CHERRY TREE SURGERY
<b>Client</b>	DYSE STRUCTURAL ENGINEERS
<b>Run by</b>	CONNOR HASTINGS
<b>Date</b>	31-Jan-23
<b>Reviewed by</b>	JD
<b>Characterisation of scenario being evaluated</b>	
<b>Interpretation of scenario ranking by DST</b>	



**Joint Industry Working Group**

Asbestos in Soil and Construction & Demolition Materials

Project Reference	GRO-22843
Site Name	Cherry Tree Surgery
Client	DYSE Strutral Engineers
Run by	CJH
Date	31-Jan-23
Scenario details	

**Decision Support Tool for CAR2012 Work Categories**

Stage 1  
Hazard Factors

	Score	
Select ACM type (run model for each type to generate 'Worst Case' output)	Loose fibrous asbestos debris	3
Extent of degradation of ACMs at outset of work	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not 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	Trace quantities - <0.0001 to 0.001 %wt/wt	0
<b>Sub-total</b>		<b>0</b>

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

**Hazard ranking** Negligible

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.

Stage 2		Score
Exposure Factors		
Anticipated airborne fibre concentration - Control Limit or SALI?	<0.001 fibres/ml	0
Anticipated duration of exposure to asbestos	< 1 hour for any one person in any week (e.g. Short Duration Work)	1
Activity type and effect on deterioration of ACMs during work	Low intensity, no or minimal deterioration expected	0
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
<b>Sub-total</b>		<b>6</b>
<b>Exposure ranking</b>		<b>Low</b>
<b>Combined hazard and exposure ranking</b>	<b>6</b>	<b>Very Low</b>

### Stage 3

#### Risk Assessment Outputs

Probable Licensing Status	CAR do not apply
RPE*	None
Dust Suppression**	None
Hygiene/Decontamination***	None

\*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



APPENDIX 17 - Waste Classification Report

## Waste Classification Report

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

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



43Q3L-M5LY3-KJ7V3

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

### Job name

22-11091\_HWOL\_Results

### Description/Comments

### Project

Cherry Tree Surgery

### Site

### Classified by

Name: **Richard Wyatt**  
 Date: **01 Feb 2023 10:30 GMT**  
 Telephone: **07742660133**  
 Company: **Groundtech Consulting Limited**  
**First Floor, Lloyd House**  
**Orford Court, Greenfold Way**  
**Leigh**  
**WN7 3XJ**

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

HazWasteOnline™ Certification:	Date
Course Hazardous Waste Classification	- 50% complete

### Purpose of classification

4 - Classification of Waste Products

### Address of the waste

Post Code

### SIC for the process giving rise to the waste

### Description of industry/producer giving rise to the waste

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

### Description of the waste

### Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01--21112022-0.15		Non Hazardous		3
2	WS02--21112022-0.50		Non Hazardous		5
3	WS03--21112022-0.50		Non Hazardous		7
4	HP01--21112022-0.10		Non Hazardous		9
5	HP02--21112022-0.15		Non Hazardous		11
6	HP03--21112022-0.50		Non Hazardous		13
7	WS01--21112022-3.10		Non Hazardous		15
8	WS02--21112022-1.50		Non Hazardous		16
9	WS03--21112022-1.50		Non Hazardous		17

### Related documents

#	Name	Description
1	22-11091_HWOL_Results.hwol	i2 Analytical .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

### Report

Created by: Richard Wyatt

Created date: 01 Feb 2023 10:30 GMT

### Appendices

	Page
Appendix A: Classifier defined and non EU CLP determinands	18
Appendix B: Rationale for selection of metal species	19
Appendix C: Version	19

Classification of sample: WS01--21112022-0.15

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

**Sample details**

Sample name:	LoW Code:
<b>WS01--21112022-0.15</b>	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
<b>13%</b>	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				24	mg/kg	1.32	27.568	mg/kg	0.00276 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22	mg/kg	1.462	32.154	mg/kg	0.00322 %		
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				73	mg/kg	1.126	71.505	mg/kg	0.00715 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	83	mg/kg	1.56	112.634	mg/kg	0.00722 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				24	mg/kg	2.976	62.144	mg/kg	0.00621 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				140	mg/kg	2.774	337.891	mg/kg	0.0338 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	pH				8	pH		8	pH	8pH		
			PH									
12	naphthalene				0.82	mg/kg		0.713	mg/kg	0.0000713 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
14	acenaphthene				0.28	mg/kg		0.244	mg/kg	0.0000244 %	✓	
		201-469-6	83-32-9									
15	fluorene				0.16	mg/kg		0.139	mg/kg	0.0000139 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				1.9	mg/kg		1.653	mg/kg	0.000165 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.32 mg/kg		0.278 mg/kg	0.0000278 %	✓	
18	fluoranthene	205-912-4	206-44-0		2.7 mg/kg		2.349 mg/kg	0.000235 %	✓	
19	pyrene	204-927-3	129-00-0		2.5 mg/kg		2.175 mg/kg	0.000217 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.3 mg/kg		1.131 mg/kg	0.000113 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	1.4 mg/kg		1.218 mg/kg	0.000122 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.3 mg/kg		1.131 mg/kg	0.000113 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.65 mg/kg		0.566 mg/kg	0.0000566 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.2 mg/kg		1.044 mg/kg	0.000104 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.54 mg/kg		0.47 mg/kg	0.000047 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.14 mg/kg		0.122 mg/kg	0.0000122 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		0.67 mg/kg		0.583 mg/kg	0.0000583 %	✓	
Total:								0.0625 %		

Key

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

Classification of sample: WS02--21112022-0.50

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

**Sample details**

Sample name:	LoW Code:
<b>WS02--21112022-0.50</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>21%</b> (wet weight correction)	

**Hazard properties**

None identified

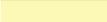
**Determinands**

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				33	mg/kg	1.32	34.421	mg/kg	0.00344 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38	mg/kg	1.462	55.539	mg/kg	0.00555 %		
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				98	mg/kg	1.126	87.166	mg/kg	0.00872 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	110	mg/kg	1.56	135.548	mg/kg	0.00869 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				36	mg/kg	2.976	84.645	mg/kg	0.00846 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				140	mg/kg	2.774	306.821	mg/kg	0.0307 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	pH				7.7	pH		7.7	pH	7.7 pH		
			PH									
12	naphthalene				0.69	mg/kg		0.545	mg/kg	0.0000545 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.06	mg/kg		0.0474	mg/kg	0.00000474 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				0.52	mg/kg		0.411	mg/kg	0.0000411 %	✓	
		201-469-6	83-32-9									
15	fluorene				0.36	mg/kg		0.284	mg/kg	0.0000284 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				3.9	mg/kg		3.081	mg/kg	0.000308 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.75 mg/kg		0.593 mg/kg	0.0000593 %	✓	
18	fluoranthene	205-912-4	206-44-0		4.5 mg/kg		3.555 mg/kg	0.000356 %	✓	
19	pyrene	204-927-3	129-00-0		4.1 mg/kg		3.239 mg/kg	0.000324 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.1 mg/kg		1.659 mg/kg	0.000166 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	2.2 mg/kg		1.738 mg/kg	0.000174 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.8 mg/kg		1.422 mg/kg	0.000142 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.2 mg/kg		0.948 mg/kg	0.0000948 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.8 mg/kg		1.422 mg/kg	0.000142 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.81 mg/kg		0.64 mg/kg	0.000064 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.23 mg/kg		0.182 mg/kg	0.0000182 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		0.93 mg/kg		0.735 mg/kg	0.0000735 %	✓	
Total:								0.0683 %		

Key

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

Classification of sample: WS03--21112022-0.50

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

**Sample details**

Sample name:	LoW Code:
<b>WS03--21112022-0.50</b>	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
<b>14%</b> (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				39	mg/kg	1.32	44.284	mg/kg	0.00443 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38	mg/kg	1.462	55.539	mg/kg	0.00555 %		
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
	024-017-00-8											
5	copper { dicopper oxide; copper (I) oxide }				100	mg/kg	1.126	96.826	mg/kg	0.00968 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	100	mg/kg	1.56	134.144	mg/kg	0.0086 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				29	mg/kg	2.976	74.228	mg/kg	0.00742 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				150	mg/kg	2.774	357.865	mg/kg	0.0358 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	pH				8	pH		8	pH	8pH		
			PH									
12	naphthalene				3.2	mg/kg		2.752	mg/kg	0.000275 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.14	mg/kg		0.12	mg/kg	0.000012 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				1.6	mg/kg		1.376	mg/kg	0.000138 %	✓	
		201-469-6	83-32-9									
15	fluorene				1.1	mg/kg		0.946	mg/kg	0.0000946 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				8.5	mg/kg		7.31	mg/kg	0.000731 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		1.5 mg/kg		1.29 mg/kg	0.000129 %	✓	
18	fluoranthene	205-912-4	206-44-0		9 mg/kg		7.74 mg/kg	0.000774 %	✓	
19	pyrene	204-927-3	129-00-0		7.7 mg/kg		6.622 mg/kg	0.000662 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	4.4 mg/kg		3.784 mg/kg	0.000378 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	3.1 mg/kg		2.666 mg/kg	0.000267 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	4 mg/kg		3.44 mg/kg	0.000344 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.4 mg/kg		1.204 mg/kg	0.00012 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	3.2 mg/kg		2.752 mg/kg	0.000275 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		1.4 mg/kg		1.204 mg/kg	0.00012 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.35 mg/kg		0.301 mg/kg	0.0000301 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		1.8 mg/kg		1.548 mg/kg	0.000155 %	✓	
28	asbestos	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		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
Total:								0.0777 %		

Key

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

Classification of sample: HP01--21112022-0.10

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

**Sample details**

Sample name:	LoW Code:	
<b>HP01--21112022-0.10</b>	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>16%</b> (wet weight correction)		

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				37	mg/kg	1.32	41.036	mg/kg	0.0041 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35	mg/kg	1.462	51.154	mg/kg	0.00512 %		
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				100	mg/kg	1.126	94.575	mg/kg	0.00946 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	130	mg/kg	1.56	170.332	mg/kg	0.0109 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				32	mg/kg	2.976	80.002	mg/kg	0.008 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				160	mg/kg	2.774	372.845	mg/kg	0.0373 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	pH				7.7	pH		7.7	pH	7.7 pH		
			PH									
12	naphthalene				1.2	mg/kg		1.008	mg/kg	0.000101 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.09	mg/kg		0.0756	mg/kg	0.00000756 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				0.57	mg/kg		0.479	mg/kg	0.0000479 %	✓	
		201-469-6	83-32-9									
15	fluorene				0.43	mg/kg		0.361	mg/kg	0.0000361 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				3.8	mg/kg		3.192	mg/kg	0.000319 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.72 mg/kg		0.605 mg/kg	0.0000605 %	✓	
18	fluoranthene	205-912-4	206-44-0		5 mg/kg		4.2 mg/kg	0.00042 %	✓	
19	pyrene	204-927-3	129-00-0		4.6 mg/kg		3.864 mg/kg	0.000386 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.8 mg/kg		2.352 mg/kg	0.000235 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	2 mg/kg		1.68 mg/kg	0.000168 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	2.9 mg/kg		2.436 mg/kg	0.000244 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.93 mg/kg		0.781 mg/kg	0.0000781 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	2.2 mg/kg		1.848 mg/kg	0.000185 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		1.1 mg/kg		0.924 mg/kg	0.0000924 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.27 mg/kg		0.227 mg/kg	0.0000227 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		1.2 mg/kg		1.008 mg/kg	0.000101 %	✓	
28	asbestos	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	<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
Total:								0.0791 %		

Key

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

Classification of sample: HP02--21112022-0.15

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

**Sample details**

Sample name: <b>HP02--21112022-0.15</b>	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: <b>14%</b> (wet weight correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				42	mg/kg	1.32	47.69	mg/kg	0.00477 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				33	mg/kg	1.462	48.231	mg/kg	0.00482 %		
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
		024-017-00-8										
5	copper { dicopper oxide; copper (I) oxide }				350	mg/kg	1.126	338.892	mg/kg	0.0339 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	120	mg/kg	1.56	160.973	mg/kg	0.0103 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				33	mg/kg	2.976	84.466	mg/kg	0.00845 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
10	zinc { zinc chromate }				260	mg/kg	2.774	620.299	mg/kg	0.062 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	pH				8.1	pH		8.1	pH	8.1 pH		
			PH									
12	naphthalene				0.78	mg/kg		0.671	mg/kg	0.0000671 %	✓	
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				0.07	mg/kg		0.0602	mg/kg	0.00000602 %	✓	
		205-917-1	208-96-8									
14	acenaphthene				0.38	mg/kg		0.327	mg/kg	0.0000327 %	✓	
		201-469-6	83-32-9									
15	fluorene				0.29	mg/kg		0.249	mg/kg	0.0000249 %	✓	
		201-695-5	86-73-7									
16	phenanthrene				3.1	mg/kg		2.666	mg/kg	0.000267 %	✓	
		201-581-5	85-01-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		0.59 mg/kg		0.507 mg/kg	0.0000507 %	✓	
18	fluoranthene	205-912-4	206-44-0		4.3 mg/kg		3.698 mg/kg	0.00037 %	✓	
19	pyrene	204-927-3	129-00-0		3.9 mg/kg		3.354 mg/kg	0.000335 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	2.2 mg/kg		1.892 mg/kg	0.000189 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	2.1 mg/kg		1.806 mg/kg	0.000181 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	2.3 mg/kg		1.978 mg/kg	0.000198 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.1 mg/kg		0.946 mg/kg	0.0000946 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	2 mg/kg		1.72 mg/kg	0.000172 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		0.96 mg/kg		0.826 mg/kg	0.0000826 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.29 mg/kg		0.249 mg/kg	0.0000249 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		1.1 mg/kg		0.946 mg/kg	0.0000946 %	✓	
Total:								0.127 %		

Key

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

Classification of sample: HP03--21112022-0.50

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

**Sample details**

Sample name: <b>HP03--21112022-0.50</b>	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: <b>14%</b> (wet weight correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				40 mg/kg	1.32	45.419 mg/kg	0.00454 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				36 mg/kg	1.462	52.616 mg/kg	0.00526 %		
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
5	copper { dicopper oxide; copper (I) oxide }				100 mg/kg	1.126	96.826 mg/kg	0.00968 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	120 mg/kg	1.56	160.973 mg/kg	0.0103 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				32 mg/kg	2.976	81.907 mg/kg	0.00819 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
10	zinc { zinc chromate }				160 mg/kg	2.774	381.723 mg/kg	0.0382 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	pH		PH		8 pH		8 pH	8pH		
12	naphthalene				2.8 mg/kg		2.408 mg/kg	0.000241 %	✓	
	601-052-00-2	202-049-5	91-20-3							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	acenaphthene				1.4 mg/kg		1.204 mg/kg	0.00012 %	✓	
		201-469-6	83-32-9							
15	fluorene				0.93 mg/kg		0.8 mg/kg	0.00008 %	✓	
		201-695-5	86-73-7							
16	phenanthrene				8.8 mg/kg		7.568 mg/kg	0.000757 %	✓	
		201-581-5	85-01-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	anthracene	204-371-1	120-12-7		1.6 mg/kg		1.376 mg/kg	0.000138 %	✓	
18	fluoranthene	205-912-4	206-44-0		10 mg/kg		8.6 mg/kg	0.00086 %	✓	
19	pyrene	204-927-3	129-00-0		8.5 mg/kg		7.31 mg/kg	0.000731 %	✓	
20	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	4.1 mg/kg		3.526 mg/kg	0.000353 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9	4.1 mg/kg		3.526 mg/kg	0.000353 %	✓	
22	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	4.1 mg/kg		3.526 mg/kg	0.000353 %	✓	
23	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	1.4 mg/kg		1.204 mg/kg	0.00012 %	✓	
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	3.5 mg/kg		3.01 mg/kg	0.000301 %	✓	
25	indeno[123-cd]pyrene	205-893-2	193-39-5		1.4 mg/kg		1.204 mg/kg	0.00012 %	✓	
26	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.4 mg/kg		0.344 mg/kg	0.0000344 %	✓	
27	benzo[ghi]perylene	205-883-8	191-24-2		1.6 mg/kg		1.376 mg/kg	0.000138 %	✓	
Total:								0.0816 %		

Key

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

Classification of sample: WS01--21112022-3.10

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

**Sample details**

Sample name:	LoW Code:	
<b>WS01--21112022-3.10</b>	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>13%</b> (wet weight correction)		

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.9 pH		7.9 pH	7.9 pH		
2	009-015-00-7	220-281-5	2699-79-8		180 mg/kg		156.6 mg/kg	0.0157 %	✓	
3	015-005-00-3	235-023-7	12057-74-8		39 mg/kg	1.85	62.756 mg/kg	0.00628 %	✓	
Total:								0.0219 %		

**Key**

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- ⚗ Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration

Classification of sample: WS02--21112022-1.50

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

**Sample details**

Sample name:	LoW Code:	
<b>WS02--21112022-1.50</b>	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>16%</b> (wet weight correction)		

**Hazard properties**

None identified

**Determinands**

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	●	pH			7.8 pH		7.8 pH	7.8 pH		
2		sulphuryl difluoride			110 mg/kg		92.4 mg/kg	0.00924 %	✓	
		009-015-00-7	220-281-5	2699-79-8						
3		magnesium { magnesium phosphide; trimagnesium diphosphide }			26 mg/kg	1.85	40.394 mg/kg	0.00404 %	✓	
		015-005-00-3	235-023-7	12057-74-8						
Total:								0.0133 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- ⚠ Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration

Classification of sample: WS03--21112022-1.50

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

### Sample details

Sample name:	LoW Code:
<b>WS03--21112022-1.50</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>11%</b> (wet weight correction)	

### Hazard properties

None identified

### Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.9 pH		7.9 pH	7.9 pH		
2	 sulphuryl difluoride 009-015-00-7   220-281-5   2699-79-8				170 mg/kg		151.3 mg/kg	0.0151 %	✓	
3	 magnesium {  magnesium phosphide; trimagnesium diphosphide } 015-005-00-3   235-023-7   12057-74-8				51 mg/kg	1.85	83.952 mg/kg	0.0084 %	✓	
Total:								0.0235 %		

### Key

- User supplied data
-  Determinand defined or amended by HazWasteOnline (see Appendix A)
-  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration

## Appendix A: Classifier defined and non EU CLP determinands

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

Description/Comments: Data from C&L Inventory Database  
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>  
Data source date: 17 Jul 2015  
Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

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

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Carc. 2; H351, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 21 Aug 2015  
Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 21 Aug 2015  
Hazard Statements: Skin Irrit. 2; H315, Eye Irrit. 2; H319, STOT SE 3; H335, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 23 Jul 2015  
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **magnesium phosphide; trimagnesium diphosphide** (EC Number: 235-023-7, CAS Number: 12057-74-8)

EU CLP index number: 015-005-00-3  
Description/Comments:  
Additional Hazard Statement(s): Water-react. 1; H260 >= 0.3 % , EUH032 >= 0.3 % , EUH029 >= 0.3 %  
Reason for additional Hazards Statement(s):  
14 Dec 2015 - Water-react. 1; H260 >= 0.3 % hazard statement sourced from: WM3, Table C3.2  
14 Dec 2015 - EUH032 >= 0.3 % hazard statement sourced from: WM3, Table C12.2  
14 Dec 2015 - EUH029 >= 0.3 % hazard statement sourced from: WM3, Table C12.2

## Appendix B: Rationale for selection of metal species

### arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

### cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

### chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

### copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

### lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

### magnesium {magnesium phosphide; trimagnesium diphosphide}

worst case

## Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018  
HazWasteOnline Classification Engine Version: 2023.25.5511.10206 (25 Jan 2023)  
HazWasteOnline Database: 2023.25.5511.10206 (25 Jan 2023)

This classification utilises the following guidance and legislation:

**WM3 v1.1 - Waste Classification** - 1st Edition v1.1 - May 2018

**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 2019** - UK: 2019 No. 720 of 27th March 2019

**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

**17th ATP** - Regulation (EU) 2021/849 of 11 March 2021



**APPENDIX 18 - Relevant Legislative Background**

## Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

- 1) Significant harm is being caused or there is a significant possibility of such harm being caused;
- 2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

## Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- LCRM – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

## Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;



**APPENDIX 19 - 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.

