

Phase II Site Appraisal

12066 – North Colwell Farm
Haywards Heath

for

Miller Homes Ltd
CHH-PPC-00-XX-RP-G-0002

July 2024

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Summary of Recommendations for North Colwell Farm, Haywards Heath	
Risk to End-Users	No risk to end-users identified.
Risk to Controlled Waters	No risk to controlled waters identified.
Ground Gases	Gas monitoring to date has characterised areas of the site around WS02 as CS2, as such gas protection measures may be required for plots in this area. Remainder of site characterised as CS1 with no requirement for gas precautions. Subject to completion of the gas monitoring programme.
Concrete Specification	GEN1 or RC25/30 concrete will be sufficient for buried concrete at the site.
Water Pipe Specification	PE/PVC pipes will be suitable (to be confirmed by utility provider).
Engineering Ground Treatment	Not required.
Likely Foundation Types	Traditional strip/trench fill foundations will be suitable for the proposed residential development.
Likely Foundation Depths	Min. 0.90m begl due to volume change potential. Foundations should be carried through any soft or loose natural deposits.
Bearing Strata	Firm to stiff or stiff to very stiff weathered bedrock geology.
Allowable Bearing Pressure	Allowable bearing pressure of 100kN/m ² for strip/trench fill foundation into minimum firm to stiff (>65 kPa) cohesive soils or medium dense to dense granular soils.
Volume Change Potential	Medium volume change potential.
Tree Influence	Deepening for trees and heave precautions may be required subject to completion of tree survey.
Floor Slabs	Ground bearing slabs bearing on shallow natural soils subject to confirmation of tree influence on shallow cohesive soils.
Slope Stability Risk	Based on the current site gradients it is considered that a slope stability assessment will not be required. Subject to confirmation of final levels and gradients.
Retaining Walls	Small retaining structures may be required to create level development plateaus. These retaining structures will need to be designed by a suitably qualified engineer.
SUDs	A soakaway drainage strategy is feasible if excess surface water is discharged in the locations of SA01 and SA03 at the lowest points in the southeast and southwest of the site.
Roads	A CBR design value of between 3.7-21% should be achievable subject to in-situ testing.
Likely Waste Classification	Soils will require disposal as non-hazardous waste to an inert landfill subject to confirmation from the receiving waste site.
Other Comments	None

The above summary should not be used in isolation and reference should be made the full report which provides a detailed assessment of the risks affecting the development.

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1.0 Introduction

1.1 Commission

Patrick Parsons (PP) has been appointed by Miller Homes (Client) to produce a Phase II Site Appraisal for their site known as North Colwell Farm, Haywards Heath herein referred to as 'the site'.

1.2 Proposed Development

It is understood that the site is to be developed to provide in the region of 150no. low-rise residential properties. A plan showing a concept masterplan of the proposed development is in Appendix A.

1.3 Limitations

This report has been prepared for the client and their appointed agents only and should not be relied upon by any third party without the written permission of PP. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors do not owe them any Duty of Care or Skill. It is based on and limited to an assessment of the information and ground conditions identified here. PP is not responsible for ground conditions located between exploratory hole locations and not revealed during investigations.

1.4 Aim of Phase II Site Appraisal

The client's specific requirements were to undertake a Phase II Site Appraisal. The principal objectives are as follows:

- Obtain information about the soil and groundwater conditions within the area of the site;
- Determine the ground related geotechnical and contamination hazards within the site boundaries that may affect the proposed development;
- Define the Phase I conceptual site model and refine to form a Phase II conceptual site model;
- Provide development recommendations and provide advice on further works if required.

1.5 Information Sources

This Phase II Site Appraisal is based on the findings of the investigation, chemical analysis and geotechnical testing undertaken during the assessment. The results have been used to refine the conceptual model and initial recommendations outlined in the Phase I Site Appraisal report undertaken by PP (ref: CHH-PPC-00-XX-RP-G-0001, dated December 2023). The information included within this report helped to form the rationale for the design of this investigation.

2.0 Summary of Phase I Site Appraisal

The following is a summary of the findings of the Phase I Site Appraisal Report undertaken by PP in December 2023 and should not be read in isolation. For full details reference should be made to the report outlined in section 1.5.

- The site is an irregularly shaped parcel of land comprising three undeveloped fields lined with semi mature and mature trees. The site comprises grassed and roughly vegetated fields which slope gently towards the south. Shallow streams run along the north to south field boundaries and flow towards the south. The site is approximately 6.32ha in size and is located approximately 2.3km southeast of Haywards Heath town centre, centred at OS grid reference 535320, 123292. The nearest postcode is RH17 7SX.
- The site is bound by a wood adjacent to its southern boundary. A wood and an undeveloped field are located on the eastern boundary. Residential properties with gardens are located on the northern boundary. Immediately to the west of the site is a residential property with a garden. The immediate surrounding area for the most part is residential properties to the north and undeveloped fields and wooded areas to the east, south and west.
- Historical mapping indicates the site to have comprised tree lined fields since 1874 with no significant changes recorded.
- The site has been classified as low risk of UXO. As such no further mitigation measures are considered to be required.
- There are no recorded superficial deposits below the site. The bedrock geology beneath the site is recorded to comprise the Upper Tunbridge Wells Sand (interbedded sandstone and siltstone). There are no records of superficial deposits, artificial ground or Made Ground recorded near the site. There are no recorded BGS boreholes present on or within 250m of the site.
- There are 5no. records of BritPits within 500m of the site, the nearest record being 255m south of the site for 'Cains Wood Pit'. There are 5no. records of surface ground workings within 250m of the site, all records relate to ponds, the closest being 108m southeast of the site.
- The site is not within a Radon Affected Area, as less than 1% of properties are above the action level; as such, radon protection measures are not required for new properties.
- The bedrock aquifer is recorded as a Secondary (A) Aquifer. There are 2no. records of groundwater abstractions within 2000m of the site. The nearest is for a historical licence 939m south of the site from a well at Home Farm, Slugwash.
- The site is not located within a Source Protection Zone (SPZ).
- There are 15no. surface water features recorded within 250m of the site. The closest record being an inland river mapped on site. The site is not recorded to be in a Flood Zone 2 or Flood Zone 3.
- There are 17no. recorded historical industrial land uses within 500m of the site. The closest record is for a Nursery located 87m northwest of the site present from 1961-1973. Additional records include pits, unspecified heaps, and a boathouse.
- There are 8no. records of historical tanks within 500m of the site. The nearest is an unspecified tank first recorded 116m west of the site in 1897.
- There are 5no. records of historical energy features recorded within 500m of the site. All records relate to electricity substations, the most pertinent record dating from 1994 for an electricity substation, located 124m southwest of the site.
- There are 2no. records of recent industrial land use within 250m of the site. The nearest record is located 124m southwest of the site relating to a pump house.

- There are 5no. records of licensed discharges to controlled waters within 500m of the site. The nearest is a historical license located 201m north of the site at Oldfield, Lyoth Lane, Haywards Heath and is for sewage discharges.

No specific contaminants of concern were expected to be present on-site due to the site being used as an undeveloped field for over 140 years. However, general contaminants of concern are likely to include heavy metals, polyaromatic hydrocarbons (PAHs) and asbestos.

3.0 Phase I Conceptual Model

3.1 Initial Conceptual Model and Preliminary Risk Assessment

The preceding desk study data has been assessed and a conceptual model produced in accordance with Land Contamination Risk Management (LCRM) guidance document. LCRM provides a technical framework for identifying and remediating contamination through the application of a risk management process.

The process requires the development of an initial conceptual site model (CSM) and preliminary risk assessment which are based on information derived from the desk study to provide a qualitative assessment of risk posed to human health and environmental receptors from potential on and off-site sources of contamination as defined within Part IIA of the Environmental Protection Act (1990).

The CSM provides the relationship between the following three criteria:

- The presence of substances that may cause harm (source).
- The presence of a plausible pollutant linkage between the source and receptor (pathway);
- The presence of a receptor which may be harmed (receptor).

If all three criteria are present, or considered likely to be present at a site, they are identified as Potential Contaminant Linkages (PCLs) and they should be considered within the risk assessment process. For an 'unacceptable risk' to exist, it must be established that contamination has the potential to cause harm to susceptible targets, which requires scientific and technical knowledge.

EA R&D66 (2008) includes a risk classification system based on classification of consequence and probability. The table below shows a risk matrix, in which the likelihood or probability of each pollutant linkage being realised is ranked against the severity of the consequences. The result is the risk classification, based upon which risk management actions can be implemented. The individual sources, pathways and receptors identified are assessed against this risk matrix; potential pollutant linkages and associated risks are recorded.

		Severity of Consequence			
		Severe	Medium	Mild	Minor
Probability of pollutant linkage	High Likelihood	Very High risk	High risk	Moderate risk	Moderate/ Low risk
	Likely	High risk	Moderate risk	Moderate / Low risk	Low risk
	Low Likelihood	Moderate risk	Moderate / Low risk	Low risk	Very Low risk
	Unlikely	Moderate / Low risk	Low risk	Very Low risk	Very Low risk

The definitions of the risk terminology are taken from CIRIA report C552 and are summarised as follows:

- **Very High risk:** there is a high probability that severe harm could arise to a designated receptor from an identified source, or there is evidence that severe harm to a designated receptor is currently occurring. This level of risk is likely to result in a substantial liability and urgent investigation (if not already undertaken) and remediation are likely to be required.
- **High risk:** harm is likely to arise to a designated receptor from an identified source. This level of risk is likely to result in a substantial liability, urgent investigation (if not already undertaken), short term remediation may be necessary are likely to be required in the long term.
- **Moderate risk:** it is possible that harm could arise to a designated receptor from an identified source. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required, and some remediation may be required in the long term.
- **Low risk:** it is possible that harm could arise to a designated receptor from an identified source, but it is likely that this harm, if realised, would at worst normally be mild. Further investigation should be considered, but is not necessarily required, to confirm the absence of contamination.
- **Very Low risk:** there is a low possibility that harm could arise to the receptor. In the event of such harm being realised it is not likely to be severe. Further investigation should be considered, but is not necessarily required, to confirm the absence of contamination.

A pollutant linkage must be established before tests for probability and consequence are applied. If there is no pollutant linkage, then there is no potential risk and there is no need to apply tests for probability and consequence. The risk assessment needs to include a logical and transparent system to define categories of severity of consequence and probability of occurrence. The initial conceptual model and preliminary risk assessment are discussed below.

3.2 Potential On-site Sources of Contamination

There are no plausible significant potential on-site sources of contamination expected to be present on-site. However, asbestos may have been fly tipped or introduced on-site by windblown processes.

3.3 Potential Offsite Sources of Contamination

There are no significant potential off-site sources of contamination expected to be within influencing distance of the site. General contaminants of concern are expected to be polyaromatic hydrocarbons (PAHs) and pesticides.

3.4 Contaminants of concern

No specific contaminants of concern are expected to be present on-site due to the site being used as an undeveloped field for over 140 years. However, general contaminants of concern are likely to include heavy metals, polyaromatic hydrocarbons (PAHs) and asbestos.

3.5 Pathways

The potential pathways for migration of contamination sources to potential receptors relevant to this site are as follows:

Human Health

- Direct contact with and/or incidental ingestion of contaminated soils.
- Dermal contact, inhalation and/or ingestion of dust derived from contaminated soils.
- Migration of hazardous soil-gases via or ducts/drains into future buildings.

Controlled Waters

- Discharge of contamination within surface water run-off.
- Migration of contamination via preferential pathways e.g. service runs.
- Leaching of contaminants from soil and vertical migration into groundwater

Buried Services/Property

- Direct contact of contaminants with existing or future buried services.
- Migration of hazardous soil-gases via ducts/drains into enclosed spaces.

3.6 Receptors

The following site-specific receptors are considered relevant:

Human Health

- Site users – end-users of the proposed residential development.
- Construction workers – personnel involved in the redevelopment works.
- Off-site residential properties – end users.

Controlled Waters

- Several tributaries/drains recorded on the boundary/immediate surrounding area south of the site
- Underlying bedrock aquifer.
- Several ponds located within 500m of the site.

Buried Services / Property

- Building fabric and foundations/piles.

3.7 Conceptual Site Model

A preliminary qualitative assessment of the identified PCLs and associated risk ratings has been completed and a summary is provided in the Table on the next page.



Source	Pathway	Receptor	Consequence	Probability	Risk Assessment and Justification
On-site sources – No significant sources of on-site contamination expected from past land usage. Offsite sources – No significant sources of off-site contamination expected from past land usage.	Dermal contact, inhalation and ingestion of contaminants in soil and soil derived dust	Future site user/worker	Mild	Unlikely	Very Low Risk – There are no significant sources of contamination expected to be present on-site. The proposed development of the site includes areas of private gardens and soft landscaping, as such there is a potential pathway between any potential contamination and end users.
	Inhalation of volatile soil vapours and ground gas	Site construction worker	Mild	Unlikely	Very Low Risk – Construction workers have a shorter exposure period, and risks shall be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015.
	Inhalation of asbestos free fibres	Future site user/worker Site construction worker	Mild	Unlikely	Very Low Risk – No significant deposits of Made Ground identified within influencing distance of the site. It is considered very unlikely that levels of volatile vapours and ground gases will be high enough to represent acute risks or lead to significant impact. Assessed as very low.
	Leaching of contaminants from soil and vertical migration into groundwater	Site user/worker Site construction worker	Severe	Unlikely	Moderate / Low Risk – It is unlikely that any asbestos is present on-site. Given that proposed development of the site does not include significant areas of soft landscaping there will be a reduced pathway between any potential contamination and end users.
	Lateral migration in shallow groundwater	Groundwater within bedrock	Medium	Unlikely	Moderate / Low Risk – Construction workers have a shorter exposure period, and risks shall be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015.
	Migration via drainage routes	Several drains present on the site boundaries. Several ponds recorded within 500m of the site	Medium	Unlikely	Low Risk – No significant sources of contamination expected to be present on-site. Risk assessed as Low due to no significant sources of contamination expected to be present on-site.
	Permeation through water pipes of shallow contamination.	Future site user/worker	Mild	Low Likelihood	Low Risk – No significant sources of contamination expected to be present on-site. However, the close proximity of the potential receptors to the site (inland river) could pose a contamination risk should any contaminants of concern be found.
			Medium	Unlikely	Low Risk: No significant sources of contamination expected to be present on-site

4.0 Phase II Ground Investigation

4.1 Fieldwork

The ground investigation (including fieldwork, sampling and laboratory analysis) has been designed to identify and assess potential ground related problems and to allow cost-effective solutions to be advised. It has been planned based on the desk study. All fieldwork and soil descriptions were carried out in general accordance with relevant British Standards.

The exploratory holes have been positioned to determine the general ground/groundwater conditions below the site, with representative samples obtained for geotechnical and environmental laboratory analysis. The resultant exploratory hole density is considered to be appropriate with the complexity of the site conditions revealed in the desk study and detail of information required for this phase of the investigation.

The ground investigation was undertaken on the 26th, 29th and 30th April and the 28th, 29th and 30th May 2024 and comprised a total of 10no. machine excavated trial pits (3no. installed as soakaway tests) to a maximum depth of 2.50m below existing ground level (begl) (TP03 and TP05), and 6no. window sample boreholes to a maximum depth of 2.00m begl.

The exploratory hole location plan and exploratory hole logs are presented in Appendix B.

4.2 Ground Conditions

Topsoil was encountered in all exploratory holes across the site, typically comprising soft brown silty clay with rootlets throughout and to depths of between 0.30m and 0.50m begl.

The topsoil is underlain by weathered bedrock deposits of firm orangish brown silty sandy clay. The sand within this unit is fine.

Weathered deposits of the Upper Tunbridge Wells Sand were encountered at depths of between 0.30m (SA01-03, TP04, TP05, WS01, WS02, WS03, WS04 and WS06) and 2.20m begl (TP03).

These weathered soils become stiff to very stiff light yellowish brown sandy gravelly silt with gravel sized lithorelicts of siltstone and sandstone.

SPT N-60 values within the weathered deposits of Upper Tunbridge Well Sand were between 9 and 50 at 1.00m begl and were 50 at 2.00m begl.

In-situ hand shear vane tests were undertaken in the weathered bedrock geology. Readings of between 30-40kPa were recorded in shallower soils at TP03, TP04 and TP05. TP03 recorded soft silty sandy clay (30kPa) at greater depths of up to 2.00m begl. All other locations recorded shear values of between 60-90 kPa at approximately 2.00m begl.

An extremely weak light yellowish brown and light grey siltstone was encountered at the base of the window sample locations between depths of 1.0m and 2.0m begl resulting in SPT refusals at these depths.

4.3 Groundwater

Groundwater ingress was encountered during the investigation within three exploratory hole locations SA01, TP01 and TP03 at depths of between 0.60m begl (TP03) and 2.30m begl (SA01).

4.4 Contamination Observations

No visual or olfactory evidence of contamination was identified during the ground investigation.

4.5 Chemical Analysis

Chemical laboratory analyses were selected to provide the parameters necessary to assess the suitability for the re-use of soils on the site as well as to inform risk assessment for site end users and controlled waters receptors. The choice of analysis was based on the commonly occurring potential contaminants as identified within the Phase I Site Appraisal and on-site visual observations of soils. The chemical analysis results from the investigation are presented in Appendix D and E respectively. In summary the following testing has been completed:

- 7no. soil samples for a general suite of contaminants - metals, inorganics, speciated polyaromatic hydrocarbons and asbestos.

4.6 Geotechnical Testing

Geotechnical testing has been undertaken as part of the ground investigation to provide the parameters necessary for the preliminary design of the development. The geotechnical test results are presented in Appendix E. In summary the following testing has been completed:

- 4no. for Atterberg limit tests.
- 4no. for pH and water-soluble sulphate.
- 3no. for California Bearing Ratio.

5.0 Human Health Risk Assessment (Ground Gas)

Gas/groundwater monitoring standpipes were installed within three boreholes (WS01, WS02 and WS06).

One round of gas and groundwater monitoring has been undertaken to date out of a total of four to record groundwater levels and confirmatory gas readings.

The results of the ground gas monitoring were assessed using the classification system contained within BS 8485:2015+A1:2019 and CIRIA C665. The classification system uses gas concentrations and recorded flow rates for CH₄ and CO₂ to determine a borehole hazardous gas flow rate (Q_{hg}). Q_{hg} is used to assign a Characteristic Situation (CS) for each borehole, based on Table 2 in BS 8485:2015+A1:2019 and the Q_{hg} has been calculated using the equation below:

$$Q_{hg} = q \left(\frac{C_{hg}}{100} \right)$$

where:

q is the measured flow rate of combined gases from the monitoring standpipe (l/hr)

C_{hg} is the measured hazardous gas concentration (% v/v)

The recorded concentrations of ground gas and flow rate during the monitoring undertaken to date are summarised in the table below:

Borehole	Max Steady Flow	Max. CH ₄ (% v/v)	Max. CO ₂ (% v/v)	CH ₄ Q _{hg} (l/hr)	CO ₂ Q _{hg} (l/hr)	CS
WS01	0.0	0.0	1.5	0.000	0.000	1
WS02	0.0	0.0	5.8	0.000	0.000	1*
WS06	0.0	0.0	2.7	0.000	0.000	1
*CS2 value based on CO ₂ value above 5%						

The single round of monitoring undertaken to date has recorded a maximum carbon dioxide concentration of 5.8% v/v and a minimum oxygen concentration of 17.8% v/v. No methane was recorded. Low levels of carbon monoxide were recorded during the first visit with peak concentrations below 15ppm, no hydrogen sulphide was recorded.

A plausible worst case Q_{hg} has been calculated for carbon dioxide (0.0058 l/hr) using a nominal steady flow rate of 0.1 l/hr. The 'worst case' Q_{hg} for methane and carbon dioxide would classify the site as Characteristic Situation 1 (CS1) in accordance with BS 8485:2015+A1:2019. However, the concentration of carbon dioxide in WS02 is marginally above the threshold for CS1 (>5%) and consideration of an increase to CS2 conditions is required.

As such, it is considered that gas precautions may be required for proposed houses. An allowance for gas precaution measures should be allowed for at this stage of the investigation. Recommendations will be updated on completion of the ground gas monitoring period. The gas monitoring results to date are presented in Appendix E.

6.0 Human Health Risk Assessment (Soil)

6.1 Introduction

It is understood that the site is to be developed to provide a low-rise residential development.

The Phase II investigation works did not record any Made Ground or any visual or olfactory signs of contamination.

Representative samples of topsoil and natural strata encountered were collected for further examination and chemical analysis.

The Generic Assessment Criteria (GAC) used by Patrick Parsons are presented in Appendix G. For this site, the chemical analysis results have been compared against the GAC for residential with home grown produce end-use with a soil organic matter (SOM) content of 2.5%, this is considered the most appropriate GAC based on the total organic carbon (TOC) recorded within the samples.

6.2 Risk to End-Users

The chemical analyses of the topsoil and natural soils have recorded no exceedances of the contaminants of concern when compared to the GAC for residential end-use with home-grown produce.

All 7no. samples were tested for the presence of asbestos; asbestos was not encountered in any of the samples.

Based on the results of the chemical analysis, the soils do not pose a risk to end-users and as such the topsoil and natural soils can be reused at the site.

6.3 Risk to Construction Workers

No evidence of contamination has been observed and the results of the chemical analyses indicate that the risk to construction workers from contaminants in soils is likely to be low.

Any potential risks associated with contaminated soils must, however, be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015. In accordance with CDM, potential risks to human health and the environment from construction activities shall be appropriately identified and all necessary steps taken to eliminate/manage that risk with the use of appropriate risk assessments and safe systems of work. It has been assumed that any future construction works on-site will be undertaken in compliance with these requirements and therefore construction workers involved in any future development at the site and intrusive maintenance workers (e.g. for repair of underground services) have been discounted as a human receptor in this report.

It is recommended that the laboratory test results are included in the consideration of site-specific risk assessment for the ground workers that will be exposed to the soils beneath the site.

7.0 Controlled Waters Risk Assessment

7.1 Risk Assessment

The ground investigation has not identified any significant Made Ground or grossly contaminated soils. As such no significant source has been identified.

The bedrock geology of the Upper Tunbridge Wells Sand is recorded to be a Secondary A Aquifer, however, the site is not recorded to be within a Source Protection Zone and the closest active groundwater abstraction is, located 1723m to the southwest of the site.

There are 15no. surface water features recorded within 250m of the site. The nearest is an unnamed stream on site.

Groundwater ingress was encountered during the investigation at shallow depths in TP03 and SA02 and is considered likely to be perched groundwater. Deeper groundwater was encountered in SA01 at 2.20m bgl within the weathered bedrock which is considered to be representative of groundwater levels.

For controlled waters, the primary receptors are considered to be the Secondary A Aquifer (bedrock geology) and the streams on site. The aquifer has been determined to be of low sensitivity given the site is not in a Source Protection Zone and the nearest abstraction is over 1500m from the site.

The primary pathways would be through infiltration and leaching of potential contaminants to groundwater and migration within the groundwater. Given the predominantly cohesive soils, however permeability and infiltration is likely to be limited.

Given that Made Ground has not been recorded on the site and no contamination has been recorded, it is considered that there is no plausible source. The pathway is restricted by low permeability soils and the receptors are also considered to be of low sensitivity. The risk to controlled waters receptors is therefore considered to be negligible.

8.0 Construction Materials Risk Assessment

8.1 Water Supply Pipes

The chemical analysis results have been compared against UK Water Industry Research (UKWIR) Contamination Thresholds for sub-surface water pipes.

Based on the site history and the chemical analysis completed, it considered that the site will be suitable for standard PE/PVC water pipes subject to confirmation from the utility provider.

8.2 Buried Concrete

Based on the recorded water-soluble sulphate (<300mg/l) and pH (5.7-8.7), the natural soils below the site (assuming mobile groundwater conditions) are characterised as DS-1 and the ACEC Class as AC-1 (in accordance with BRE Special Digest 1 (2005)). This equates to a DC-1 classification and as such in accordance with BS 8500 DC-1/GEN1 or RC25/30 concrete would be suitable for unreinforced and reinforced concrete respectively.

9.0 Phase II Conceptual Model

The preceding information has been used to revise the conceptual model.

9.1 Human Health Risks

The chemical analysis has identified no exceedances of any determinands when compared against the relevant Patrick Parsons GAC for a residential with homegrown produce end-use and as such, the soils beneath the site do not pose a risk to human health.

The Phase I conceptual model identified a low risk of harmful ground gases. Based on a strict consideration of the results of the ground gas monitoring to date the plots within the vicinity of WS02 would classify as Characteristic Situation 2 (CS2) in accordance with BS8485:2015. At this stage it would be prudent to allow for gas protection measures in advance of the final gas risk assessment when at least six monitoring visits have been completed.

There is no requirement for radon protection measures.

9.2 Controlled Waters Risk

No Made Ground has been recorded beneath the site and no sources of contamination identified in the soil samples analysed. As such the risk to controlled waters is negligible.

9.3 Conceptual Site Model

An updated assessment of relevant PCLs and associated risk ratings has been completed and a summary is provided in the Table on the next page.



Source	Pathway	Receptor	Consequence	Probability	Risk Assessment and Justification
On-site sources – Slight elevated concentration (>5% v/v) of Carbon Dioxide within WS02.	Dermal contact, inhalation and ingestion of contaminants in soil and soil derived dust	Future site user/worker	Mild	Unlikely	Very Low Risk – No sources of contamination encountered on-site. Natural soils can be reused on-site. Additional validation testing of onsite topsoil should be undertaken to confirm suitability as a growing medium.
		Site construction worker	Mild	Unlikely	Very Low Risk - Construction workers have a shorter exposure period and risks shall be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015.
		Future site user/worker Site construction worker	Severe	Unlikely	Moderate to Low Risk – Characteristic Situation 1 for majority of site area. Gas protection measures in line with CS2 conditions may be required subject to the completion of the gas monitoring programme.
	Leaching of contaminants from soil and vertical migration into groundwater	Groundwater within superficial deposits	Mild	Unlikely	Very Low Risk - No contamination encountered on-site during site works.
		Groundwater within bedrock		Unlikely	Very Low Risk – No contamination encountered on-site during site works.
	Permeation through water pipes of shallow contamination.	Future site user/worker	Mild	Unlikely	Very Low Risk – No contamination encountered on-site during site works.

Asbestos has been removed from the Phase II conceptual site model as no asbestos was encountered in any of the samples analysed and there was no visual evidence of any suspected ACM containing fly tipped materials.

10.0 Remediation and Validation

10.1 Protection of End-Users

The chemical analysis has identified no exceedances of Contaminants of Concern in soils when compared to the GACs for a residential with homegrown produce end-use. As such, it is considered that no remediation with respect to the risk from soil contamination to human-health is required.

10.2 Human Health - Ground Gas

Based on the results of the ground gas monitoring to date, parts of the site, may require elevation to Characteristic Situation 2 (CS2) in accordance with BS8485:2015+A2:2019. Gas protection measures in line with Characteristic Situation 2 (CS2) may be required for the development subject to completion of the gas monitoring programme.

There is no requirement for radon protection measures.

If gas precaution measures are required in line with CS2. In accordance with BS8485, a residential units end use classifies as a Type A Building. For Type A buildings of CS2 gas conditions, a point score of 3.5 must be achieved for adequate gas protection, which can be achieved from a range of measures as described in Section 7 of the standard. An example is provided below:

Element	Score
Precast suspended segmental floor (i.e. beam and block)	0
Passive sub floor dispersal layer with minimum good performance	2.5
Gas resistant membrane	2
Total	3.5

The gas membrane selected should be resistant to carbon dioxide and methane. To achieve the 2 points assigned to the membrane in BS8485 the installed gas protection measures will need validated in accordance with CIRIA C735. As outlined in Annex 1 of C735 where membranes are installed by a groundworker they will need to be visually validated by an independent 3rd party to ensure it has been correctly installed to a high standard. The visual inspection will include, but not be limited to, the following checks:

- Visual inspection to check for presence of tears and holes in the membrane;
- Inspection of service entries to make sure a full seal has been achieved;
- Checking of joints to ensure correct tape and minimum overlap has been achieved.

The local authority may require minimum qualifications of the installing personnel.

Photographic evidence should be collected during the validation process.

A validation letter report will be produced following the satisfactory installation of the gas protection membrane and will include a photographic record.

The above recommendations are subject to completion of the gas and groundwater monitoring programme and approval of the Local Authority.

10.3 Protection of Construction Workers

Specific remediation to protect construction workers is not required. However, during future construction works on site, risks associated with soils must be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015. In accordance with CDM, potential risks to human health and the environment from construction activities shall be appropriately identified and all necessary steps are taken to eliminate/manage that risk with the use of appropriate risk assessments and safe systems of work, including using suitable personal protective equipment (PPE) in line with the ground workers risk assessment.

10.4 Protection of Controlled Waters

The site is not considered to pose a risk to controlled waters and thus no remediation is required.

10.5 Reuse of Materials

The topsoil tested on site is considered chemically suitable for re-use in residential private gardens and soft landscaping, however due to the volume of topsoil recorded on site, additional validation testing should be undertaken before re-use. Due to the quantities of topsoil recorded on site it is unlikely that topsoil will require importing from offsite sources.

10.6 Protection of Construction Materials

Specific remediation to protect construction materials should not be required, standard PE/PVC water pipes will suffice, subject to approval from the utility provider.

In accordance with BS 8500:2016 GEN1 concrete would be suitable or RC25/30 if reinforced.

10.7 Waste Disposal Classification

The results of the chemical analysis were subject to an online Hazwaste Assessment. The online Hazwaste assessment has confirmed that all seven samples that underwent chemical analysis, have been classified as non-hazardous. As such, it is considered that should any material require removal from site it may be suitable for disposal as non-hazardous to an inert waste landfill subject to confirmation by the receiving landfill site. Waste acceptance criteria testing may be required to determine whether non-hazardous waste is suitable for an inert landfill.

The full Hazwaste assessment can be found in Appendix G.

10.8 Unrecorded or Unexpected Contamination

During future site redevelopment, groundworkers should remain vigilant for previously unrecorded or unexpected visual and/or olfactory evidence of contamination, or ground conditions which appear inconsistent with those identified during the ground investigation completed by PP.

Examples of contamination may include, but may not be limited to oil-stained soils, free phase oily liquid within soils, buried waste materials, fibrous materials, strong odours or marked variation in soil colour and should any unexpected ground conditions be encountered during construction, the following procedures should be adopted:

- All works in the area should be ceased and cordoned off;

- Patrick Parsons or similar geo-environmental consultant should attend site to inspect the area and if necessary collect samples for chemical analysis;
- If the inspection and/or chemical testing confirm the presence of additional contamination, the results will be shared with the LA EHO and any changes to the remedial strategy agreed. No works in the area will be undertaken to agreement has been reached;
- If the inspection and/or chemical testing confirm that no additional contamination is present, then works can proceed with no alteration to the remedial strategy.

11.0 Geotechnical Appraisal

11.1 Excavation Conditions

Shallow excavations up to approximately 2.50m begl in the soils encountered during the ground investigation are possible with standard mechanical excavation equipment (e.g. JCB 3CX). Trench support may be required due to the granular nature of the weathered bedrock. Full temporary works trench support should be provided to any excavation where person entry is required.

Groundwater was encountered within the bedrock geology and perched water was encountered at the centre of the site (SA02). Should groundwater be encountered upon excavation, sump pumping techniques should be adequate to control any ingress. Foundations should be constructed as soon as possible after excavation to reduce loosening of the formation horizon.

11.2 Foundations

Based on development proposals it is considered that a traditional foundation solution will be feasible for low-rise structures of traditional construction providing abnormally high loadings are not anticipated. An allowable bearing pressure of 100kN/m² should be achievable within the underlying minimum firm to stiff (>65 kPa) weathered bedrock geology with settlements not exceeding 25mm. Foundations should be deepened to extend through any made ground, soft or loose superficial soils to at least 200mm into minimum stiff and medium dense natural soils.

The shallow superficial soils are recorded to be cohesive and have a medium volume change potential following Atterberg limit testing. As such, in accordance with NHBC Chapter 4.2, a minimum foundation depth of 0.90m begl should be adopted across the site.

Hedges and mature trees are present along the boundaries of the site and its component fields, as such deepening of foundations due to existing tree influence may be required. Where foundations are deepened to the point of bearing directly upon the unweathered bedrock geology, no further deepening beyond this depth should be required.

A survey of existing trees should be undertaken, and tree influence contours should be constructed during detailed foundation design for any trees to be retained or removed, and for new plantings. Heave precautions will be required where the depth of tree influence exceeds 1.50m begl.

The ground conditions encountered indicated the soils to be predominantly cohesive however, granular soils may be encountered at likely formation depth. If foundations span both cohesive and granular soils the risk of differential settlement should be mitigated by inclusion of reinforcement within the proposed foundations should the nett benefit not be outweighed by the mass of concrete.

Based on the encountered ground conditions it is considered that site may be suitable for ground bearing floor slabs as long as shallow cohesive soils are not within the influencing distance of trees.

11.3 New Access Roads and Car Parking

The proposed development includes parking areas and access roads. Based off the laboratory CBR testing that has been carried out. CBR values of between 3.7% and 21% were recorded, as such a design CBR value of 3% should be achievable. The above CBR values should be verified by in-situ testing at formation level.

11.4 Soakaway Drainage Tests

Soakaway testing was carried out within SA01, SA02, and SA03 in accordance with BRE365.

Location	Test 1 Infiltration rate	Test 2 Infiltration rate	Test 3 Infiltration rate
SA01	1.25×10^{-6} m/s	3.12×10^{-6} m/s	3.30×10^{-6} m/s
SA03	1.35×10^{-6} m/s	1.43×10^{-6} m/s	-
SA02	FAILED	-	-

Location SA02 did not successfully drain 75% total head of water during the 24-hour test period and as such failed in accordance with BRE365.

Overall, it is considered that based on the above, a preliminary design infiltration rate of 1.25×10^{-6} m/s should be assumed for the soils where excess surface water will be discharged into in the southeast and southwest of the site based on the results from SA01 and SA03.

11.5 Slope Stability

Based on the current site gradients it is considered that a slope stability assessment will not need to be undertaken. Subject to confirmation of final levels and gradients.

11.6 Retaining Structures

Given the existing topography in the areas of proposed development it is considered that retaining structures are likely to be required to create level development plateaus. Should retaining structures be required they should be designed by a suitably qualified structural engineer.

12.0 Further Investigation

Based on the ground conditions encountered in the site investigation it is considered that some further works may be required.

- Completion of the gas and groundwater monitoring programme.
- Validation testing of site topsoil for re-use in private gardens and soft landscaping.

Following review of this report a copy of it should be submitted to the Local Authority planning department prior to any development works as this is often a condition of planning.

Appendix A

Figures



Site
**LAND AT NORTH COLWELL
FARM, HAYWARDS HEATH**

Drawing
Concept masterplan

Scale
NTS

Date
11.11.19

drawing ref 1293.03

KEY

Site boundary

MASTERPLAN COMPONENTS

- 1 Proposed new vehicular access from Lewes Road with hedgerow replaced if required, to allow for visibility splays.
- 2 Additional planting to protect amenity of existing housing and the setting of the Conservation Area
- 3 Landscape buffer to protect the setting of the Conservation Area and North Colwell House (Grade II)
- 4 Additional planting to contain extent of built up area and parish boundary
- 5 20m minimum buffer to ancient woodland to the south of the site
- 6 Open sustainable drainage feature
- 7 Existing field boundaries retained to provide ecological links
- 8 Low density housing adjacent to the Conservation Area and in the more elevated parts of the site
- 9 Medium density housing in the lower parts of the site
- 10 Additional landscape planting within the site to enhance the landscape character
- 11 Area of low density development to maintain the setting of the Conservation Area with additional planting to maintain views from Lewes Road.
- 12 Potential location for Childrens Play Area , if required.

Appendix B

Exploratory Hole Location Plan and Logs



GENERAL NOTES

- 1.1. THIS DRAWING IS COPYRIGHT AND SHOULD NOT BE REPRODUCED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF PPCE GROUP LTD.
- 1.2. DO NOT SCALE FROM THIS DRAWING.
- 1.3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS DRAWINGS & SPECIFICATIONS.

- Window Sample
- Soakaway
- Trial Pit

P1	INITIAL ISSUE.					
	AAA	11.11.11	AAA	11.11.11	AAA	11.11.11
REV.	REVISION NOTE/COMMENT					
	DRW BY	DATE	CCK BY	DATE	APP BY	DATE



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W. www.patrickparsons.co.uk

Client
MILLER HOMES

Project
LEWES ROAD, HAYWARDS
HEATH

Drawing
EXPLORATORY HOLE LOCATION
PLAN

Drawn RFH	Date 24.04.24
Patrick Parsons Project No. 12066	Scale @ A3 NTS

Status Description CONSTRUCTION RECORD	CR
Drawing No. (project-originator-volume-level-type-role-number) HHL-PPC-00-XX-DR-G-704	Revision P1

				Trial Pit Log			Trial Pit No SA01 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535245.90 - 123251.62 Level: 59.75		Date
Location: Haywards Heath						Dimensions (m): 2.00		Scale 1:25
Client: Miller Homes						Depth 2.30		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	59.45		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
							Firm orangish reddish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
				1.30	58.45		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND)	
				2.30	57.45		End of Pit at 2.30m	
							1	
							2	
							3	
							4	
							5	
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with 20mm gravel to allow future soakaway testing.								
Stability: Stable								

				Trial Pit Log			Trial Pit No SA02 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535299.80 - 123301.33 Level: 60.72		Date
Location: Haywards Heath						Dimensions (m): 2.00		Scale 1:25
Client: Miller Homes						Depth 1.50		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	60.42		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
				0.50	60.22		Firm orangish brown silty sandy CLAY. Sand is fine.	
							(WEATHERED UPPER TUNBRIDGE WELLS SAND) Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone.	
				1.50	59.22		(UPPER TUNBRIDGE WELLS SAND)	
							End of Pit at 1.50m	
1 2 3 4 5								
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with 20mm gravel to allow future soakaway testing.								
Stability: Stable								

				Trial Pit Log			Trial Pit No SA03 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535396.34 - 123186.26 Level: 56.40		Date
Location: Haywards Heath						Dimensions (m): 2.00		Scale 1:25
Client: Miller Homes						Depth 2.00		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	56.10		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
				1.00	55.40		Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
							Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND)	
			2.00	54.40		End of Pit at 2.00m		
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with 20mm gravel to allow future soakaway testing. Stability: Stable								



Trial Pit Log

TrialPit No

TP02

Sheet 1 of 1

Project Name: Lewes Road, Haywards Heath

Project No.
12066

Co-ords: 535396.79 - 123323.48
Level: 62.00

Date

Location: Haywards Heath

Dimensions (m): 2.00

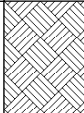
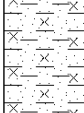
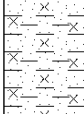
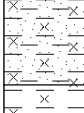
Scale
1:25

Client: Miller Homes

Depth
1.70

0.60

Logged
RFH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40	61.60		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
	0.60	B					Firm orangish brown and grey silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
	1.00		HVP=75					1
	1.20	D					Becoming stiff.	
	1.60	D		1.50	60.50		Stiff orangish brown and grey silty CLAY. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
				1.65	60.35		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND)	2
				1.70	60.30		End of Pit at 1.70m	
								3
								4
								5

Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with arisings upon completion.

Stability: Stable





				Trial Pit Log			TrialPit No TP04 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535315.18 - 123235.81 Level: 58.60		Date
Location: Haywards Heath						Dimensions (m): 2.00 		Scale 1:25
Client: Miller Homes						Depth 1.50		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES	HVP=30	0.30	58.30		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
	0.50						Soft orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
	1.00	B	1.00	57.60		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND)		
			1.50	57.10		End of Pit at 1.50m		
								1
								2
								3
								4
								5
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with arisings upon completion.								
Stability: Stable								

				Trial Pit Log			Trial Pit No TP05 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535288.75 - 123359.02 Level: 66.00		Date
Location: Haywards Heath						Dimensions (m): 2.00		Scale 1:25
Client: Miller Homes						Depth 2.50		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	65.70		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
	0.50		HVP=30				Soft orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
	0.70 0.70	D	HVP=70				<i>Becoming stiff.</i>	
	1.20	D						
				2.00	64.00		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND)	
			2.50	63.50		End of Pit at 2.50m		
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with arisings upon completion.								
Stability: Stable								

				Trial Pit Log			Trial Pit No TP06 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535214.65 - 123294.14 Level: 64.00		Date
Location: Haywards Heath						Dimensions (m): 2.00		Scale 1:25
Client: Miller Homes						Depth 2.00		Logged RFH
Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.35			0.35	63.65		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
	0.50		HVP=70				Stiff orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
	1.00		HVP=90					
	1.20			1.20	62.80		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone.	
	1.30	D						
1.50	D						(UPPER TUNBRIDGE WELLS SAND)	
	2.00			2.00	62.00		End of Pit at 2.00m	
1 2 3 4 5								
Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with arisings upon completion.								
Stability: Stable								

Trial Pit Log

Trial Pit No

TP07

Sheet 1 of 1

Project Name: Lewes Road, Haywards Heath

Project No.
12066

Co-ords: 535161.23 - 123266.22
Level: 64.47

Date

Location: Haywards Heath

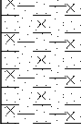
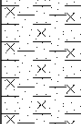
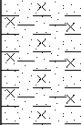
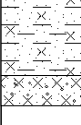
Dimensions (m): 2.00

Scale
1:25

Client: Miller Homes

Depth
2.20

Logged
RFH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	63.97		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
	0.60	B					Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
	1.00		HVP=65					1
	1.30	D					<i>Becoming stiff.</i>	
	2.00 2.00	D	HVP=80	2.10 2.20	62.37 62.27		Light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. (UPPER TUNBRIDGE WELLS SAND) End of Pit at 2.20m	2
								3
								4
								5

Remarks: 1) Trial pit scanned with a CAT and genny before excavation. 2) No groundwater encountered. 3) Trial pit backfilled with arisings upon completion.

Stability: Stable

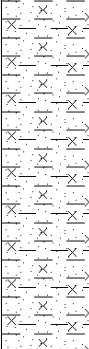
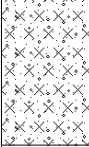


				Borehole Log			Borehole No. WS01 Sheet 1 of 1		
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535287E - 123333N		Hole Type WS	
Location: Haywards Heath				Level: 63.00		Scale 1:25		Logged By RFH	
Client: Miller Homes				Dates:					
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES	N=9 (2,2/2,3,2,2)	0.30	63.00		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	1
								Soft brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
		0.80	D		1.30	62.70		<u>Becoming firm.</u>	2
		1.00	SPT					Stiff orangish brown and grey silty CLAY. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
		1.70	D		1.95 2.00	61.70 61.05		Stiff light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. Becomes very weak SILTSTONE at 2.00m begl. (UPPER TUNBRIDGE WELLS SAND) End of Borehole at 2.00m	3
		2.00	SPT					N=50 (8,9/10,12,16,12)	
									4
									5
Remarks 1) Borehole scanned with a CAT and genny and service avoidance pit dug before drilling. 2) No groundwater encountered. 3) Borehole installed with monitoring well upon completion.									

				Borehole Log				Borehole No. WS02 Sheet 1 of 1		
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535408E - 123196N		Hole Type WS		
Location: Haywards Heath				Level: 56.00		Scale 1:25		Logged By RFH		
Client: Miller Homes				Dates:						
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10	ES		0.30	56.00		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.		
							Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)			
		0.70	D							
		1.00	SPT	50 (20,20/50 for 190mm)	0.95 1.00	55.70 55.05		Stiff light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. Becomes very weak SILTSTONE at 1.00m begl. (UPPER TUNBRIDGE WELLS SAND) End of Borehole at 1.00m		
Remarks 1) Borehole scanned with a CAT and genny and service avoidance pit dug before drilling. 2) No groundwater encountered. 3) Borehole installed with monitoring well upon completion.										

				Borehole Log				Borehole No. WS03 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535384E - 123289N		Hole Type WS	
Location: Haywards Heath				Level: 60.47		Scale 1:25		Logged By RFH	
Client: Miller Homes				Dates:					
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	ES		0.30	60.47		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	1
		0.50	D			Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)			
		1.00	SPT		50 (15,16/50 for 190mm)	0.90 1.00	60.17 59.57		
									2
									3
									4
									5
Remarks 1) Borehole scanned with a CAT and genny before drilling. 2) No groundwater encountered. 3) Borehole backfilled with arisings upon completion.									

				Borehole Log				Borehole No. WS04 Sheet 1 of 1	
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535409E - 123354N		Hole Type WS	
Location: Haywards Heath				Level: 63.40		Scale 1:25		Logged By RFH	
Client: Miller Homes				Dates:					

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES	N=22 (2,3/4,5,6,7)	0.30	63.40		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	1
								Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)	
								<i>Becoming stiff.</i>	
		1.00	SPT	50 (5,7/50 for 40mm)	1.50	63.10		Stiff light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. Becomes very weak SILTSTONE at 2.00m begl. (UPPER TUNBRIDGE WELLS SAND)	
		1.20	D						
		2.00	SPT		2.00	61.90		End of Borehole at 2.00m	2
									3
									4
									5

Remarks
 1) Borehole scanned with a CAT and genny before drilling. 2) No groundwater encountered. 3) Borehole backfilled with arisings upon completion.



					Borehole Log			Borehole No. WS05 Sheet 1 of 1		
Project Name: Lewes Road, Haywards Heath					Project No. 12066		Co-ords: 535304E - 123250N		Hole Type WS	
Location: Haywards Heath					Level: 58.80			Scale 1:25		
Client: Miller Homes					Dates:			Logged By RFH		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.10	ES	N=29 (6,8/8,7,7,7)	0.35	58.80		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	1	
		0.50	D					Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND)		
		0.80								
		1.00	SPT		N=50 (3,6/9,12,13,16)	2.00	58.00			Stiff light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. Becomes very weak SILTSTONE at 2.00m begl. (UPPER TUNBRIDGE WELLS SAND)
		1.50	D							
2.00	SPT	End of Borehole at 2.00m							2	
									3	
									4	
									5	
Remarks 1) Borehole scanned with a CAT and genny before drilling. 2) No groundwater encountered. 3) Borehole backfilled with arisings upon completion.										

				Borehole Log			Borehole No. WS06 Sheet 1 of 1		
Project Name: Lewes Road, Haywards Heath				Project No. 12066		Co-ords: 535125E - 123259N		Hole Type WS	
Location: Haywards Heath				Level: 67.00		Scale 1:25		Logged By RFH	
Client: Miller Homes				Dates:					
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.30	67.00		TOPSOIL: Grass over soft brown silty clay. Rootlets throughout.	
					0.50	66.70		Firm orangish brown silty sandy CLAY. Sand is fine. (WEATHERED UPPER TUNBRIDGE WELLS SAND) Firm light yellowish brown sandy gravelly SILT. Sand is fine. Gravel is subangular lithorelic pieces of siltstone and sandstone. Becomes very weak SILTSTONE at 2.00m begl. (UPPER TUNBRIDGE WELLS SAND)	
		1.00	SPT		N=18 (3,4/4,4,5,5)				
		1.40	D						
		2.00	SPT	N=50 (8,10/10,12,14,14)	2.00	66.50		End of Borehole at 2.00m	
Remarks 1) Borehole scanned with a CAT and genny before drilling. 2) No groundwater encountered. 3) Borehole installed with monitoring well upon completion.									

Appendix C

Environmental Test Results

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Birmingham
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Analytical Report Number : 24-017820

Project / Site name:	Lewes Road, Haywards Heath	Samples received on:	02/05/2024
Your job number:	12066	Samples instructed on/ Analysis started on:	06/05/2024
Your order number:		Analysis completed by:	10/05/2024
Report Issue Number:	1	Report issued on:	10/05/2024
Samples Analysed:	7 soil samples		



Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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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: 24-017820
Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number				189376	189377	189378	189379	189380
Sample Reference				WS01	WS02	WS03	WS04	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.10	0.30	0.20	0.10
Date Sampled				01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024
Time Taken				0900	0900	0900	0900	0900
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	25	23	19	19	20
Total mass of sample received	kg	0.1	NONE	1.4	1.5	1.4	1.5	1.4

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ	KSZ	KSZ	KSZ

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.2	5.9	6.5	5.7	6.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	%	0.005	MCERTS	0.044	0.042	0.042	0.044	0.044
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	21	9.7	28	15	8.4
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	10.5	4.85	13.7	7.23	4.18
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	2.1	1.5	1.7	1.6

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.07	0.09	0.1	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.13	0.18	0.2	0.23	0.09
Pyrene	mg/kg	0.05	MCERTS	0.13	0.16	0.18	0.22	0.06
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.07	0.08	0.09	0.09	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.07	0.09	0.11	0.12	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13	0.13	0.15	0.16	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.07	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.09	0.09	0.11	0.11	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.07	0.09	0.14	0.13	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.1	0.08	0.18	0.13	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	0.97	1.24	1.37	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9	9.2	14	8	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.2	< 0.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	17	26	22	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	12	21	12	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	26	27	27	26
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	7.6	8.6	16	7.9	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.1	< 1.0	1.6	1.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46	40	64	46	57

Analytical Report Number: 24-017820

Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number	189376	189377	189378	189379	189380
Sample Reference	WS01	WS02	WS03	WS04	WS05
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.20	0.10	0.30	0.20	0.10
Date Sampled	01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024
Time Taken	0900	0900	0900	0900	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Pesticides

Alpha-BHC (Benzene Hexachloride)	µg/kg	10	NONE	< 10	-	< 10	-	-
Alachlor	µg/kg	10	NONE	< 10	-	< 10	-	-
Gamma-BHC (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-	< 10	-	-
Omethoate	µg/kg	10	NONE	< 10	-	< 10	-	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-
1,3,5-Trichlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-
2,6-Dichlorobenzonitrile	µg/kg	10	NONE	< 10	-	< 10	-	-
Dimethylvinphos	µg/kg	10	NONE	< 10	-	< 10	-	-
Demeton-O	µg/kg	10	NONE	< 10	-	< 10	-	-
Demeton-S	µg/kg	10	NONE	< 10	-	< 10	-	-
Endrin Aldehyde	µg/kg	10	NONE	< 10	-	< 10	-	-
Endrin Ketone	µg/kg	10	NONE	< 10	-	< 10	-	-
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-	< 10	-	-
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	-
1,2,4,5-Tetrachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-
Endosulfan sulfate	µg/kg	10	NONE	< 10	-	< 10	-	-
Etrinfos	µg/kg	10	NONE	< 10	-	< 10	-	-
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	-
Hexachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-	< 10	-	-
Pentachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	-
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-	< 10	-	-
Propetamphos	µg/kg	10	NONE	< 10	-	< 10	-	-
Tecnazene	µg/kg	10	NONE	< 10	-	< 10	-	-
Aldrin	µg/kg	10	NONE	< 10	-	< 10	-	-
Azinphos-methyl	µg/kg	10	NONE	< 10	-	< 10	-	-
Beta-BHC	µg/kg	10	NONE	< 10	-	< 10	-	-
Cis-Chlordane	µg/kg	10	NONE	< 10	-	< 10	-	-
Chlorfenvinphos	µg/kg	10	NONE	< 10	-	< 10	-	-
Chlorpyrifos	µg/kg	10	NONE	< 10	-	< 10	-	-
Chlorothalonil	µg/kg	10	NONE	< 10	-	< 10	-	-
Carbophenothion	µg/kg	10	NONE	< 10	-	< 10	-	-
Delta-BHC	µg/kg	10	NONE	< 10	-	< 10	-	-
Dieldrin	µg/kg	10	NONE	< 10	-	< 10	-	-
Heptachlor Exo-epoxide	µg/kg	10	NONE	< 10	-	< 10	-	-
Endrin	µg/kg	10	NONE	< 10	-	< 10	-	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-	< 10	-	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-	< 10	-	-
Fenthion	µg/kg	10	NONE	< 10	-	< 10	-	-
Isodrin	µg/kg	10	NONE	< 10	-	< 10	-	-
Methacrifos	µg/kg	10	NONE	< 10	-	< 10	-	-
O,p'-DDD	µg/kg	10	NONE	< 10	-	< 10	-	-
O,p'-DDE	µg/kg	10	NONE	< 10	-	< 10	-	-
O,p'-DDT	µg/kg	10	NONE	< 10	-	< 10	-	-
Parathion	µg/kg	10	NONE	< 10	-	< 10	-	-
Parathion-methyl	µg/kg	10	NONE	< 10	-	< 10	-	-
Phorate	µg/kg	10	NONE	< 10	-	< 10	-	-
Phosalone	µg/kg	10	NONE	< 10	-	< 10	-	-
P,p'-DDD	µg/kg	10	NONE	< 10	-	< 10	-	-
P,p'-DDE	µg/kg	10	NONE	< 10	-	< 10	-	-
P,p'-DDT	µg/kg	10	NONE	< 10	-	< 10	-	-

Analytical Report Number: 24-017820

Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number				189376	189377	189378	189379	189380
Sample Reference				WS01	WS02	WS03	WS04	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.10	0.30	0.20	0.10
Date Sampled				01/05/2024	01/05/2024	01/05/2024	01/05/2024	01/05/2024
Time Taken				0900	0900	0900	0900	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
P,p'-Methoxychlor	µg/kg	10	NONE	< 10	-	< 10	-	-
Triazophos	µg/kg	10	NONE	< 10	-	< 10	-	-
Trans-Chlordane	µg/kg	10	NONE	< 10	-	< 10	-	-
Dichlorvos	µg/kg	10	NONE	< 10	-	< 10	-	-
Dimethoate	µg/kg	10	NONE	< 10	-	< 10	-	-
Diazinon	µg/kg	10	NONE	< 10	-	< 10	-	-
Ethion	µg/kg	10	NONE	< 10	-	< 10	-	-
Fenitrothion	µg/kg	10	NONE	< 10	-	< 10	-	-
Malathion	µg/kg	10	NONE	< 10	-	< 10	-	-
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-	< 10	-	-
Trifluralin	µg/kg	10	NONE	< 10	-	< 10	-	-
Azinphos-ethyl	µg/kg	10	NONE	< 10	-	< 10	-	-

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

Analytical Report Number: 24-017820

Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number				189381	189382
Sample Reference				TP01	TP04
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.20
Date Sampled				01/05/2024	01/05/2024
Time Taken				0900	0900
Analytical Parameter (Soil Analysis)				Units	Limit of detection
				Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	20	15
Total mass of sample received	kg	0.1	NONE	1.5	1.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KSZ	KSZ

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.2	6.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	%	0.005	MCERTS	0.03	0.024
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	8.6	6.5
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	4.28	3.23
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	0.6

Speciated PAHs

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

Total PAH

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

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	10
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	8.6
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	57	42

Analytical Report Number: 24-017820

Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number				189381	189382
Sample Reference				TP01	TP04
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.20
Date Sampled				01/05/2024	01/05/2024
Time Taken				0900	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Pesticides

Alpha-BHC (Benzene Hexachloride)	µg/kg	10	NONE	< 10	-
Alachlor	µg/kg	10	NONE	< 10	-
Gamma-BHC (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-
Omethoate	µg/kg	10	NONE	< 10	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	-
1,3,5-Trichlorobenzene	µg/kg	10	NONE	< 10	-
2,6-Dichlorobenzonitrile	µg/kg	10	NONE	< 10	-
Dimethylvinphos	µg/kg	10	NONE	< 10	-
Demeton-O	µg/kg	10	NONE	< 10	-
Demeton-S	µg/kg	10	NONE	< 10	-
Endrin Aldehyde	µg/kg	10	NONE	< 10	-
Endrin Ketone	µg/kg	10	NONE	< 10	-
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-
1,2,4,5-Tetrachlorobenzene	µg/kg	10	NONE	< 10	-
Endosulfan sulfate	µg/kg	10	NONE	< 10	-
Etrinfos	µg/kg	10	NONE	< 10	-
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-
Hexachlorobenzene	µg/kg	10	NONE	< 10	-
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-
Pentachlorobenzene	µg/kg	10	NONE	< 10	-
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-
Propetamphos	µg/kg	10	NONE	< 10	-
Tecnazene	µg/kg	10	NONE	< 10	-
Aldrin	µg/kg	10	NONE	< 10	-
Azinphos-methyl	µg/kg	10	NONE	< 10	-
Beta-BHC	µg/kg	10	NONE	< 10	-
Cis-Chlordane	µg/kg	10	NONE	< 10	-
Chlorfenvinphos	µg/kg	10	NONE	< 10	-
Chlorpyrifos	µg/kg	10	NONE	< 10	-
Chlorothalonil	µg/kg	10	NONE	< 10	-
Carbophenothion	µg/kg	10	NONE	< 10	-
Delta-BHC	µg/kg	10	NONE	< 10	-
Dieldrin	µg/kg	10	NONE	< 10	-
Heptachlor Exo-epoxide	µg/kg	10	NONE	< 10	-
Endrin	µg/kg	10	NONE	< 10	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-
Fenthion	µg/kg	10	NONE	< 10	-
Isodrin	µg/kg	10	NONE	< 10	-
Methacrifos	µg/kg	10	NONE	< 10	-
O,p'-DDD	µg/kg	10	NONE	< 10	-
O,p'-DDE	µg/kg	10	NONE	< 10	-
O,p'-DDT	µg/kg	10	NONE	< 10	-
Parathion	µg/kg	10	NONE	< 10	-
Parathion-methyl	µg/kg	10	NONE	< 10	-
Phorate	µg/kg	10	NONE	< 10	-
Phosalone	µg/kg	10	NONE	< 10	-
P,p'-DDD	µg/kg	10	NONE	< 10	-
P,p'-DDE	µg/kg	10	NONE	< 10	-
P,p'-DDT	µg/kg	10	NONE	< 10	-

Analytical Report Number: 24-017820

Project / Site name: Lewes Road, Haywards Heath

Lab Sample Number				189381	189382
Sample Reference				TP01	TP04
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.20
Date Sampled				01/05/2024	01/05/2024
Time Taken				0900	0900
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
P,p'-Methoxychlor	µg/kg	10	NONE	< 10	-
Triazophos	µg/kg	10	NONE	< 10	-
Trans-Chlordane	µg/kg	10	NONE	< 10	-
Dichlorvos	µg/kg	10	NONE	< 10	-
Dimethoate	µg/kg	10	NONE	< 10	-
Diazinon	µg/kg	10	NONE	< 10	-
Ethion	µg/kg	10	NONE	< 10	-
Fenitrothion	µg/kg	10	NONE	< 10	-
Malathion	µg/kg	10	NONE	< 10	-
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-
Trifluralin	µg/kg	10	NONE	< 10	-
Azinphos-ethyl	µg/kg	10	NONE	< 10	-

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

Analytical Report Number : 24-017820
Project / Site name: Lewes Road, Haywards Heath

* 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 *
189376	WS01	None Supplied	0.2	Brown loam and clay with gravel and vegetation
189377	WS02	None Supplied	0.1	Brown loam and clay with gravel and vegetation
189378	WS03	None Supplied	0.3	Brown loam and clay with gravel and vegetation
189379	WS04	None Supplied	0.2	Brown loam and clay with gravel and vegetation
189380	WS05	None Supplied	0.1	Brown loam and clay with gravel and vegetation
189381	TP01	None Supplied	0.3	Brown loam and clay with gravel and vegetation
189382	TP04	None Supplied	0.2	Brown loam and clay with gravel and vegetation

Analytical Report Number : 24-017820

Project / Site name: Lewes Road, Haywards Heath

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
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Pesticides by GC-MS/MS	Determination of Pesticides in soil by GC MS/MS	In-house method	L055B	W	NONE
Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

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

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

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

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

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

Appendix D

Geotechnical Test Results

GEOLABS Limited
Unit D3 HRS Business Park
Granby Avenue
Birmingham
B33 0SJ

Tel: +44(0) 121 296 4600
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email: admin@geolabs.co.uk
web: www.geolabs.co.uk

Patrick Parsons
40 St Pauls Square
Birmingham
B3 1FQ

01 July 2024

Report No : GEO/40612/01

Page 1 of 1

For the attention of Mr R Herdman

Our ref **GEO / 40612**
Your Ref **12066**

Date samples received 10/05/2024
Date written instructions received 05/06/2024
Date testing commenced 06/06/2024
Date of sample disposal 29/07/2024

Project **LEWES ROAD, HAYWARDS HEATH**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Liquid & Plastic Limits Summary
~	4	Water Content
2	4	Liquid & Plastic Limits
3	~	Geochemical Test Summary
~	4	BRE SD1 Suite B - Natural ground + pyrite
4	3	California Bearing Ratio

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**



J A Reynolds
Director

LIQUID AND PLASTIC LIMITS

Location TP01
Depth (m) 0.50
Sample Type D

Description:

Orangish brown slightly sandy CLAY with some fine to medium gravel.

Preparation : Particles >425µm removed by wet sieving and air drying.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 23.5 %

Measured percentage passing 425µm sieve : 90 %

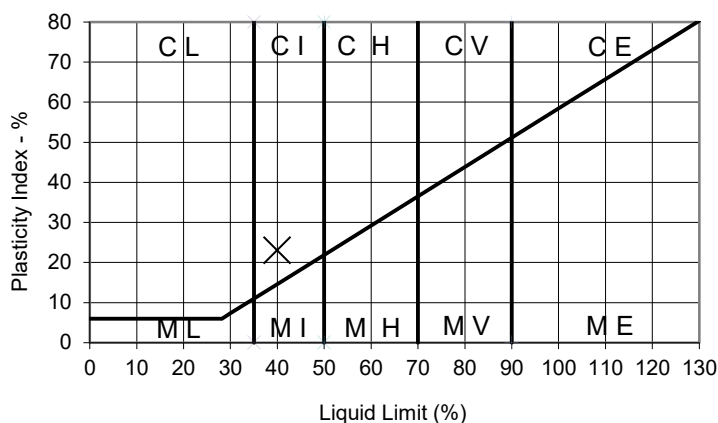
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 40 %

Plastic Limit : 17 %

Plasticity Index : 23 %

Equivalent Water Content of material passing 425µm sieve : 26.2 %

Liquidity Index : 0.40

***One point liquid limit test readings**

Cone penetration 19.6 mm

Water content 39.6 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.009

Tested by AD
Checked and Approved by

J A Reynolds

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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LIQUID AND PLASTIC LIMITS

Location TP03
Depth (m) 0.90
Sample Type D

Description:

Light brown mottled greyish brown slightly sandy CLAY with some fine to medium gravel.

Preparation : Particles >425µm removed by wet sieving and air drying.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 23.1 %

Measured percentage passing 425µm sieve : 88 %

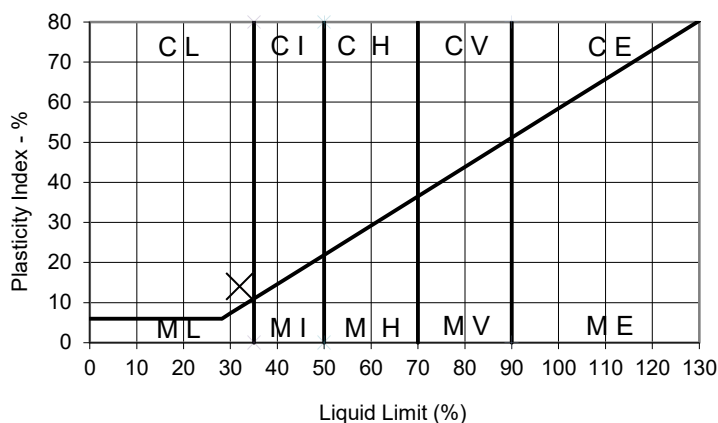
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 32 %

Plastic Limit : 18 %

Plasticity Index : 14 %

Equivalent Water Content of material passing 425µm sieve : 26.1 %

Liquidity Index : 0.58

***One point liquid limit test readings**

Cone penetration 19.9 mm

Water content 31.7 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.000

Tested by AD
Checked and Approved by

J A Reynolds

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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LIQUID AND PLASTIC LIMITS

Location TP05
Depth (m) 1.20
Sample Type D

Description:

Light brown mottled light grey and orangish brown slightly sandy
CLAY with some fine to medium gravel.

Preparation : Particles >425µm removed by wet sieving and air drying.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 20.7 %

Measured percentage passing 425µm sieve : 90 %

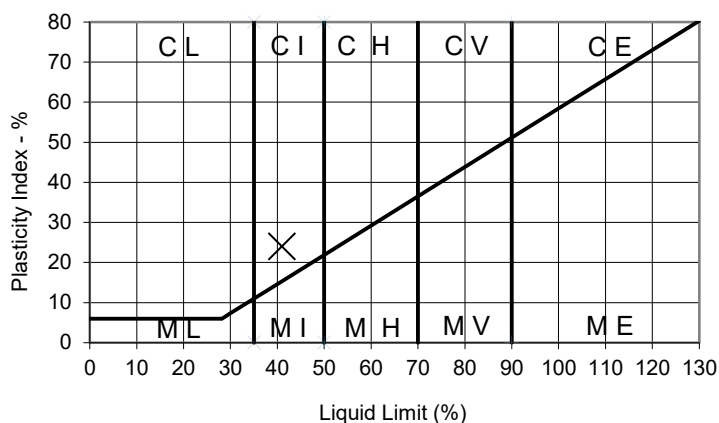
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 41 %

Plastic Limit : 17 %

Plasticity Index : 24 %

Equivalent Water Content of material passing 425µm sieve : 23.1 %

Liquidity Index : 0.25

***One point liquid limit test readings**

Cone penetration 19.3 mm

Water content 40.1 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.015

Tested by AD
Checked and Approved by

J A Reynolds

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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LIQUID AND PLASTIC LIMITS

Location TP07
Depth (m) 1.30
Sample Type D

Description:

Multi-coloured slightly sandy CLAY with some fine to medium gravel.

Preparation : Particles >425µm removed by wet sieving and air drying.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 22.0 %

Measured percentage passing 425µm sieve : 90 %

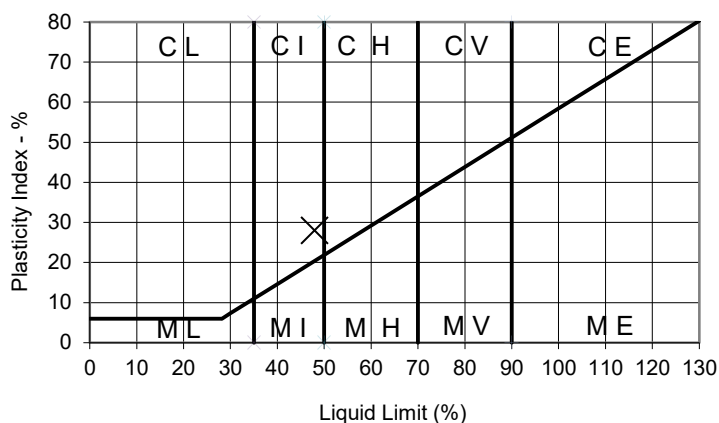
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 48 %

Plastic Limit : 20 %

Plasticity Index : 28 %

Equivalent Water Content of material passing 425µm sieve : 24.5 %

Liquidity Index : 0.16

***One point liquid limit test readings**

Cone penetration 19.4 mm

Water content 47.7 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.012

Tested by AD
Checked and Approved by

J A Reynolds

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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Tested by Eurofins Chemtest Ltd : MCERTS / UKAS No 2183

GEOLABSPage 1 of 1
(Ref 1719836830)

CALIFORNIA BEARING RATIO

Location TP02
Sample Depth 0.60 m
Sample Type B

Description:

Orangish brown mottled grey slightly sandy CLAY with rare fine to medium gravel.

PREPARATION DETAILS

The specimen was tested in an unsoaked condition.
The specimen was tested at the as received water content
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Prepared bulk density 2.02 Mg/m³
Prepared dry density 1.63 Mg/m³
0.0 % of the sample was retained on a 20mm sieve

Test Details

Surcharge
Seating load
Water content

Top

8.0 kg
10 N
24 %

Base

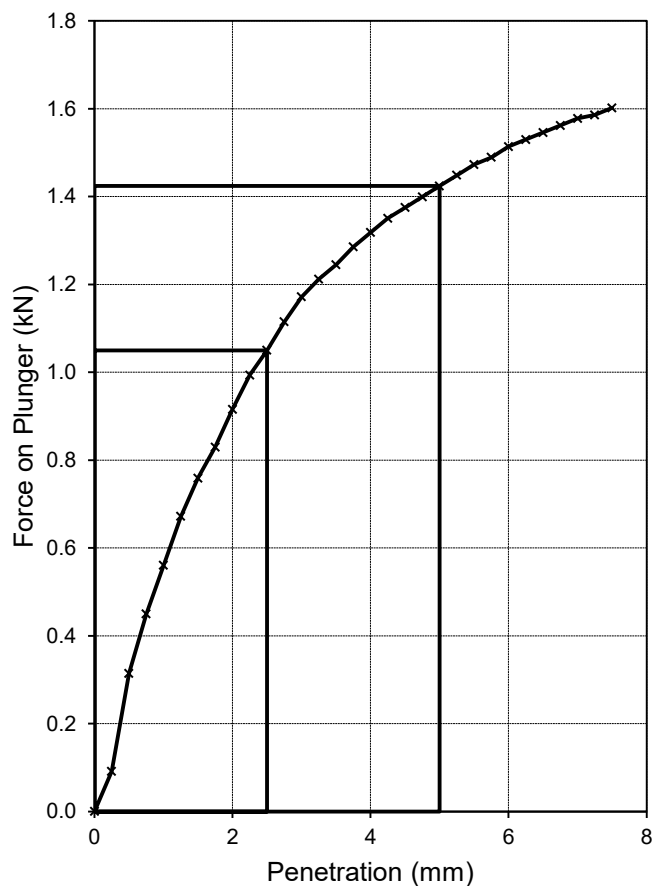
8.0 kg
10 N
24 %

CBR Value

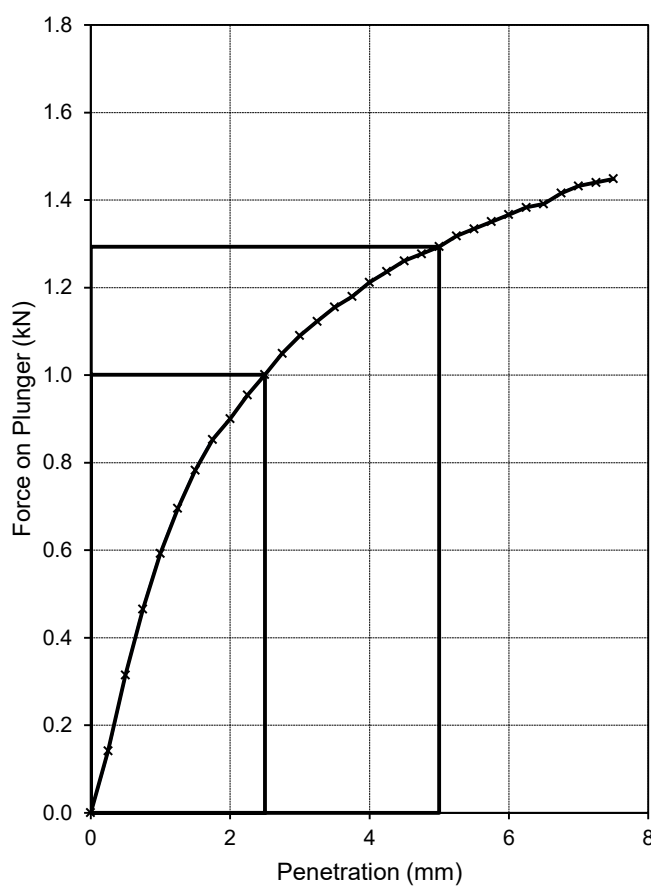
8.0 %

7.6 %

Top of Specimen



Base of Specimen

Tested by DF ☐

Checked and Approved by

J A Reynolds - Director ☐
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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CALIFORNIA BEARING RATIO

Location TP04
Sample Depth 1.00 m
Sample Type B

Description:

Orangish brown CLAY with some fine to coarse gravel.

PREPARATION DETAILS

The specimen was tested in an unsoaked condition.

The specimen was tested at the as received water content

The specimen was prepared by dynamic compaction using a 2.5 kg rammer

Prepared bulk density 1.98 Mg/m³

Prepared dry density 1.65 Mg/m³

5.2 % of the sample was retained on a 20mm sieve

Test Details

Surcharge
Seating load
Water content

Top

8.0 kg
10 N
20 %

Base

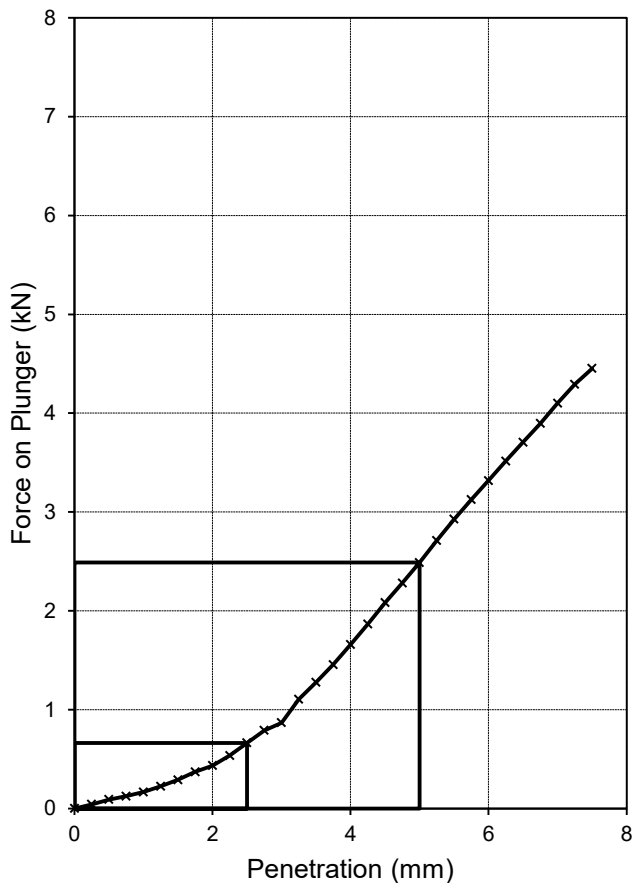
8.0 kg
10 N
20 %

CBR Value

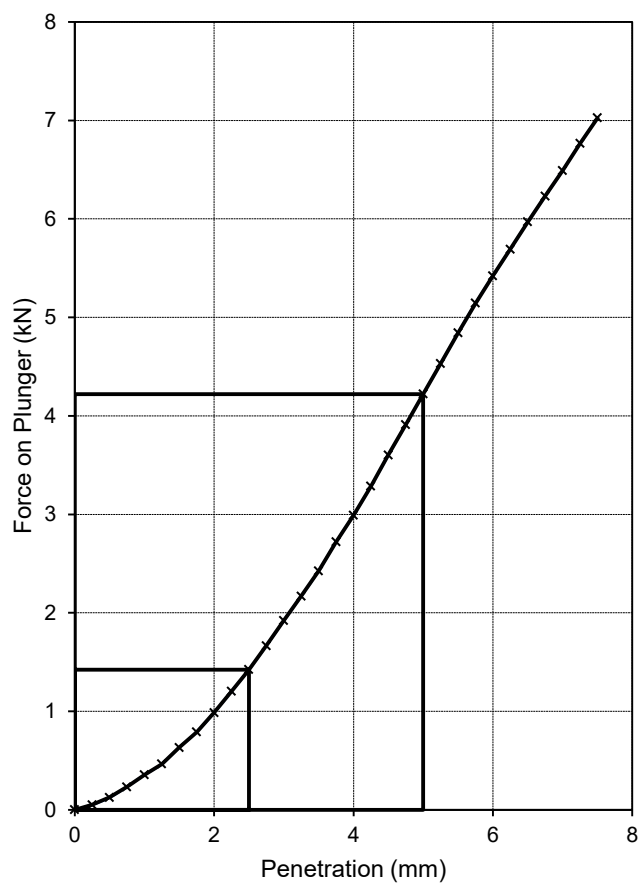
12 %

21 %

Top of Specimen



Base of Specimen



Tested by DF

Checked and Approved by

J A Reynolds

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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CALIFORNIA BEARING RATIO

Location TP07
Sample Depth 0.60 m
Sample Type B

Description:

Orangish brown and grey mottled CLAY with rare fine to medium gravel.

PREPARATION DETAILS

The specimen was tested in an unsoaked condition.
The specimen was tested at the as received water content
The specimen was prepared by dynamic compaction using a 2.5 kg rammer
Prepared bulk density 2.12 Mg/m³
Prepared dry density 1.83 Mg/m³
0.0 % of the sample was retained on a 20mm sieve

Test Details

Surcharge
Seating load
Water content

Top

8.0 kg
10 N
16 %

Base

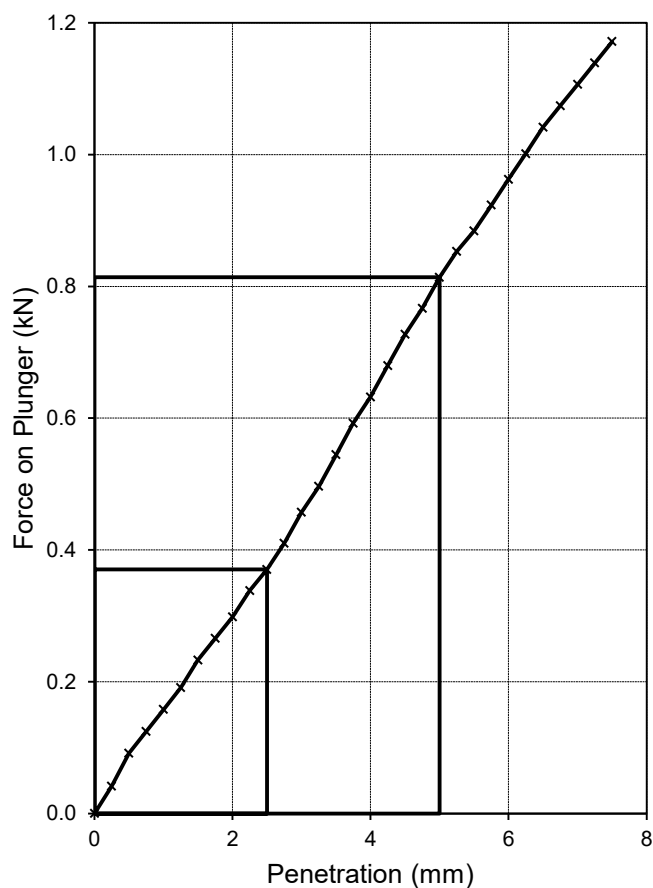
8.0 kg
10 N
16 %

CBR Value

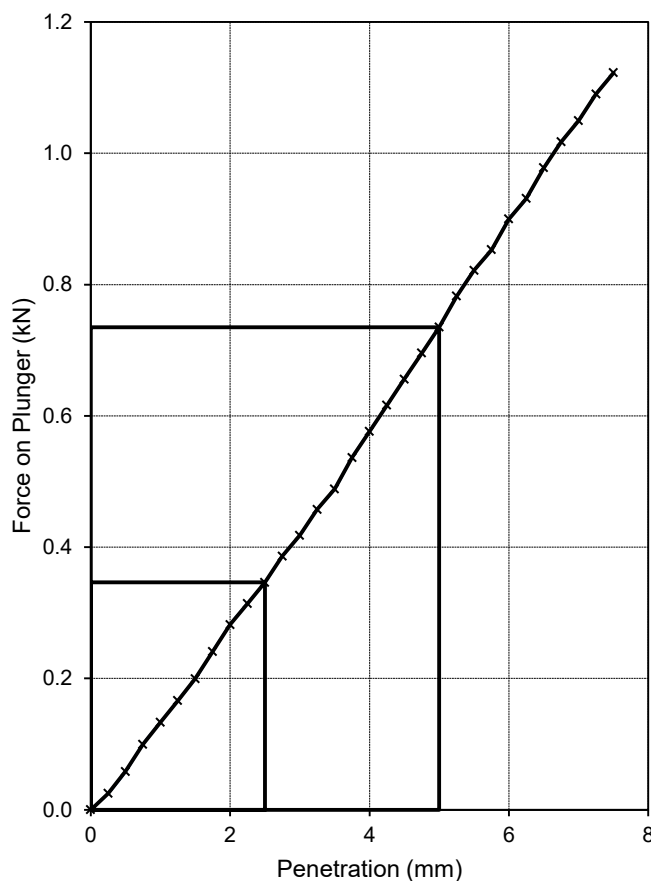
4.1 %

3.7 %

Top of Specimen



Base of Specimen



Tested by DF

Checked and Approved by

J A Reynolds - Director
01/07/2024

Project Number:

GEO / 40612

Project Name:

**LEWES ROAD, HAYWARDS HEATH
12066**

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Appendix E

Gas Monitoring Results

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Miller Homes
Site: Haywards Heath
Date: 05/07/2024

Job No: 12066
Visit No: 1 of 6
Operator: JM

Project Manager: HA

[illegible]**METEOROLOGICAL AND SITE INFORMATION:**

State of ground:

Wind:

Cloud cover:

Precipitation:

Barometric pressure (mbar):

Pressure trend:

Air Temperature (Deg. C):

(Select correct box with X or enter data, as applicable)

	X			1000		17
--	---	--	--	------	--	----

X	Wet
	Moderate
	Cloudy
	Moderate

Steady

	Snow
	Strong
X	Overcast
	Heavy
1002	After
X	Rising
18	After

☐ Frozen

Appendix F

Soakaway Test Results

INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes

Site: Lewes Rd, Haywards Heath

Job No: 10706 Test No: SA01 Test 1

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	1.03
1	1.08
2	1.10
6	1.13
13	1.18
20	1.21
30	1.25
60	1.34
120	1.45
180	1.54
1200	1.74

Gravel Filled Y/N Y

Depth at start of test (m bgl) = 1.03

Depth at end of test (m bgl) = 1.74

Depth of Loss in test (m) 0.71

75% level = 1.23

50% level = 1.43

25% level = 1.62

Size of Soakaway		
Pit Dimensions		Depth of Water
Length (m) =	2.50	0.79
Width (m) =	0.60	
Depth (m) =	1.82	

Base area of pit (m2) = 1.500

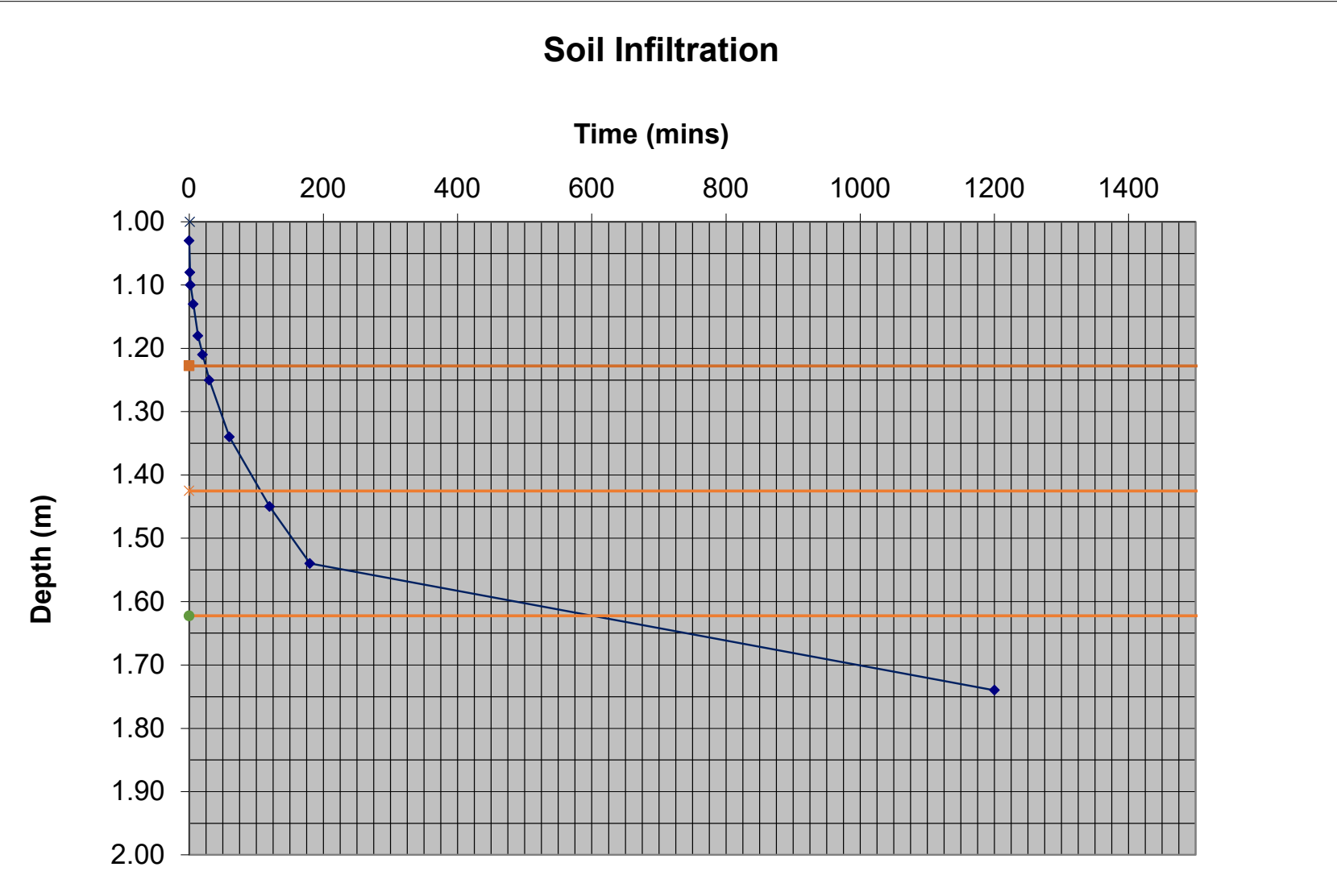
ap₅₀, area of loss (m2) = 3.949

Volume outflow 75 - 25% (m3) = 0.593

From the graph:	
tp 75 (min) =	25
tp 25 (min) =	625

Soil infiltration rate, f, (m/s) = 1.25E-06

Input: RFH Checked: HA Date: 28/05/2024



INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes

Site: Lewes Rd, Haywards Heath

Job No: 10706 Test No: SA01 Test 1

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	1.05
1	1.06
2	1.07
3	1.08
4	1.09
5	1.10
10	1.14
20	1.18
60	1.31
120	1.42
180	1.49
240	1.55
300	1.60
360	1.63

Gravel Filled Y/N Y

Depth at start of test (m bgl) = 1.05

Depth at end of test (m bgl) = 1.63

Depth of Loss in test (m) 0.58

75% level = 1.22

50% level = 1.40

25% level = 1.57

Base area of pit (m2) = 1.500

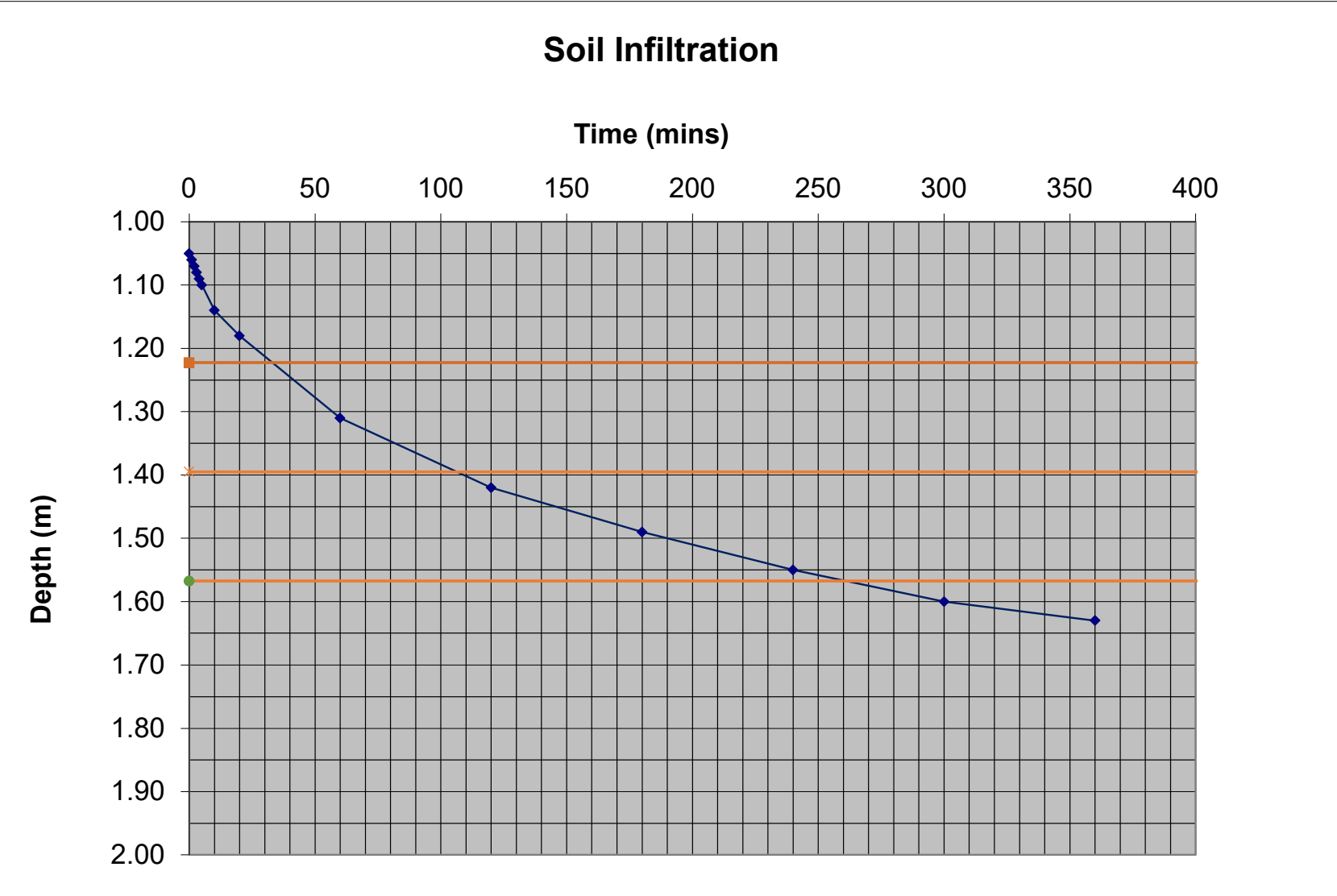
ap₅₀, area of loss (m2) = 3.639

Volume outflow 75 - 25% (m3) = 0.518

From the graph:	
tp 75 (min) =	32
tp 25 (min) =	260

Soil infiltration rate, f, (m/s) = 3.12E-06

Input: RFH Checked: HA Date: 29/05/2024



INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes
Site: Lewes Rd, Haywards Heath
Job No: 10706 Test No: SA01 Test 1

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	1.05
1	1.07
2	1.09
3	1.10
4	1.11
5	1.12
20	1.21
30	1.26
60	1.45
120	1.53
180	1.60
240	1.62
300	1.65
360	1.69
420	1.69
1320	1.81

Gravel Filled Y/N Y
Depth at start of test (m bgl) = 1.05
Depth at end of test (m bgl) = 1.81
Depth of Loss in test (m) 0.76
75% level = 1.24
50% level = 1.44
25% level = 1.63

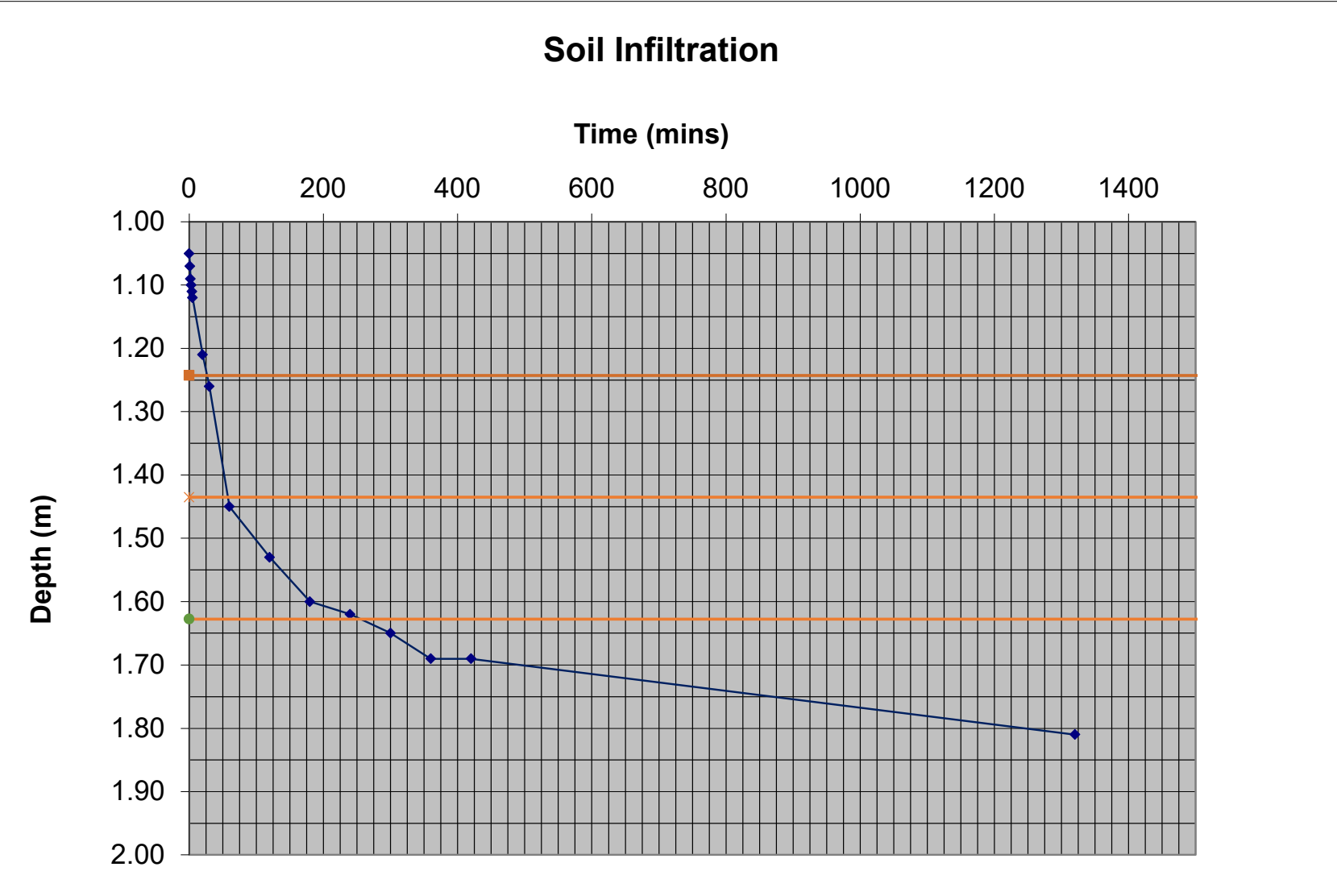
Size of Soakaway		
Pit Dimensions		Depth of Water
Length (m) =	2.50	0.77
Width (m) =	0.60	
Depth (m) =	1.82	

Base area of pit (m2) = 1.500
ap₅₀, area of loss (m2) = 3.887
Volume outflow 75 - 25% (m3) = 0.578

From the graph:		
	tp 75 (min) =	25
	tp 25 (min) =	250

Soil infiltration rate, f, (m/s) = 3.30E-06

Input: RFH Checked: HA Date: 30/05/2024



INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes

Site: Lewes Rd, Haywards Heath

Job No: 10706 Test No: SA02 Test 1

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	0.50
1	0.57
2	0.57
3	0.57
4	0.57
5	0.57
10	0.57
20	0.58
30	0.58
60	0.58
120	0.59
180	0.60
1080	0.56
1170	0.56
1560	0.56
2640	0.62

Gravel Filled Y/N Y

Depth at start of test (m bgl) = 0.50

Depth at end of test (m bgl) = 0.62

Depth of Loss in test (m) 0.12

75% level = 0.55

50% level = 0.61

25% level = 0.66

Size of Soakaway		
Pit Dimensions		Depth of Water
Length (m) =	2.50	0.21
Width (m) =	0.60	
Depth (m) =	0.71	

Base area of pit (m2) = 1.500

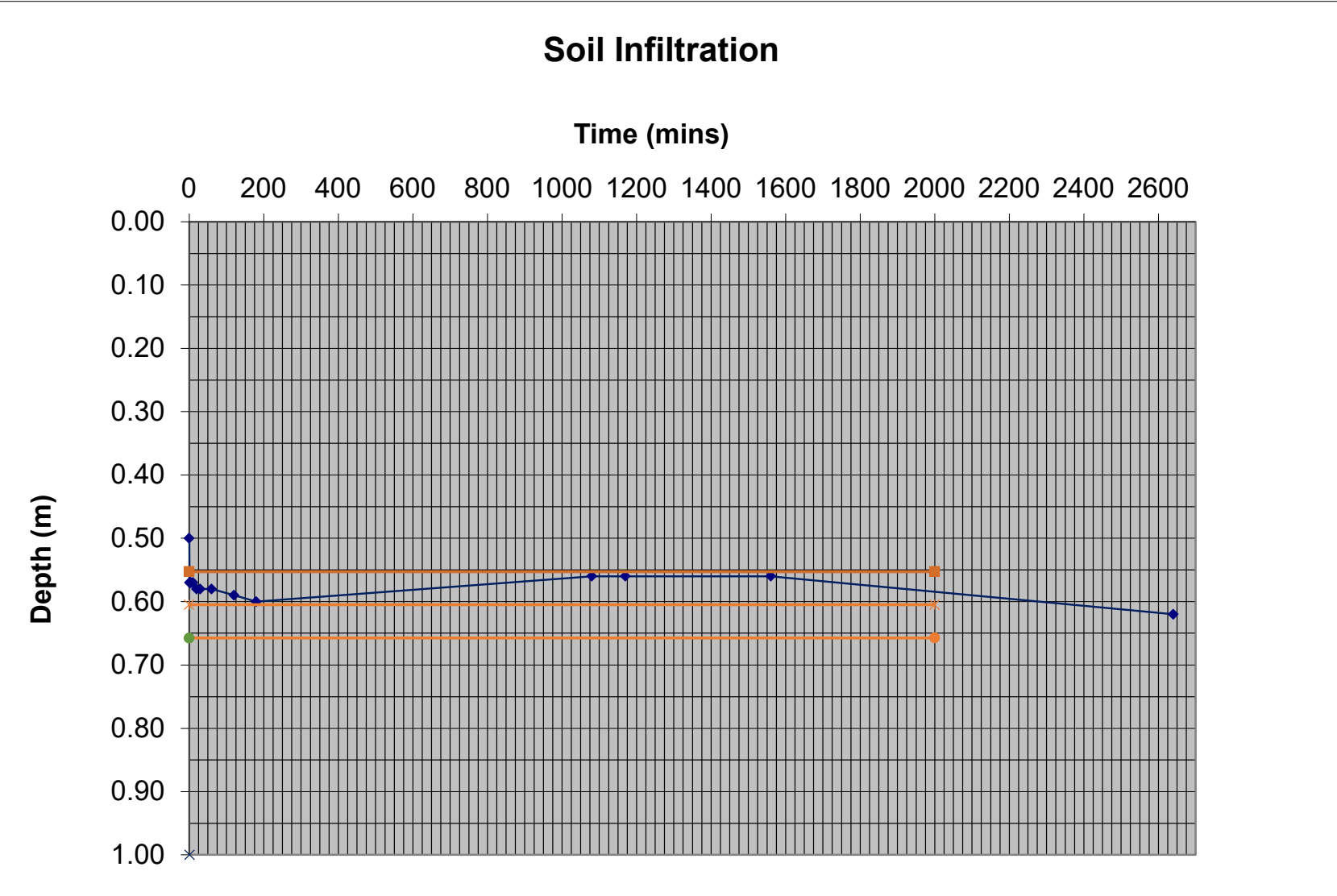
ap₅₀, area of loss (m2) = 2.151

Volume outflow 75 - 25% (m3) = 0.158

From the graph:	
tp 75 (min) =	
tp 25 (min) =	

Soil infiltration rate, f, (m/s) = #DIV/0!

Input: RFH Checked: HA Date: 28/05/2024



INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes

Site: Lewes Rd, Haywards Heath

Job No: 10706 Test No: SA03 Test 1

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	0.40
1	0.46
2	0.51
3	0.54
4	0.56
5	0.59
10	0.66
20	0.71
60	0.83
120	0.92
180	1.00
240	1.08
300	1.10
360	1.13
1440	1.41

Gravel Filled Y/N Y

Depth at start of test (m bgl) = 0.40

Depth at end of test (m bgl) = 1.13

Depth of Loss in test (m) 0.73

75% level = 0.67

50% level = 0.93

25% level = 1.20

Size of Soakaway		
Pit Dimensions		Depth of Water
Length (m) =	2.50	1.06
Width (m) =	0.60	
Depth (m) =	1.46	

Base area of pit (m2) = 1.500

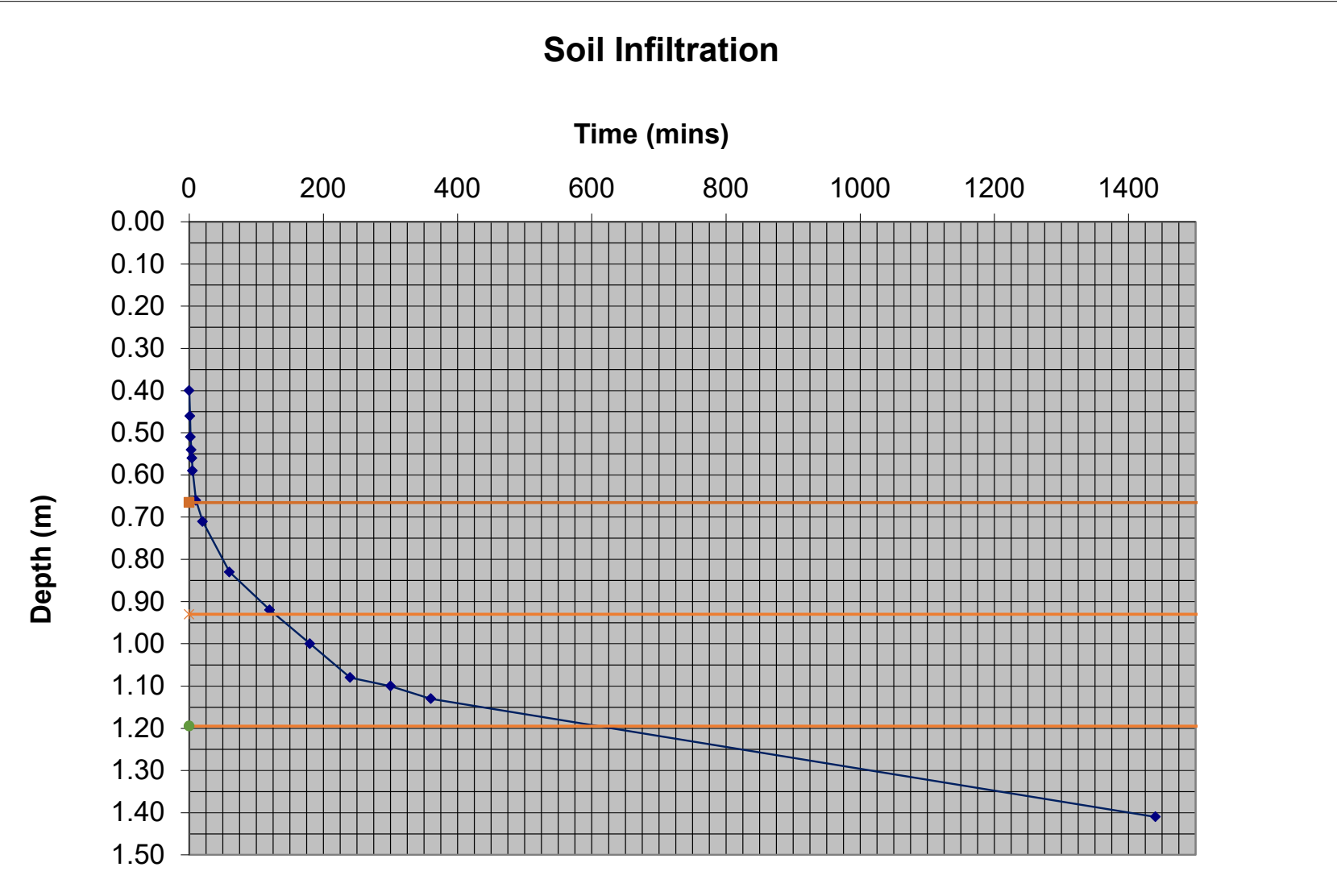
ap₅₀, area of loss (m2) = 4.786

Volume outflow 75 - 25% (m3) = 0.795

From the graph:	
tp 75 (min) =	12
tp 25 (min) =	625

Soil infiltration rate, f, (m/s) = 1.35E-06

Input: RFH Checked: HA Date: 28/05/2024



INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 2007

Client: Miller Homes

Site: Lewes Rd, Haywards Heath

Job No: 10706 Test No: SA03 Test 2

CALCULATION OF SOIL INFILTRATION RATE

Time (min)	Depth (m)
0	0.50
1	0.59
2	0.63
3	0.65
4	0.66
5	0.67
10	0.73
20	0.78
60	0.86
120	0.92
180	1.01
240	1.16
300	1.17
360	1.18
420	1.19
1560	1.47

Gravel Filled Y/N Y

Depth at start of test (m bgl) = 0.50

Depth at end of test (m bgl) = 1.47

Depth of Loss in test (m) 0.97

75% level = 0.74

50% level = 0.98

25% level = 1.22

Size of Soakaway		
Pit Dimensions		Depth of Water
Length (m) =	2.50	0.96
Width (m) =	0.60	
Depth (m) =	1.46	

Base area of pit (m2) = 1.500

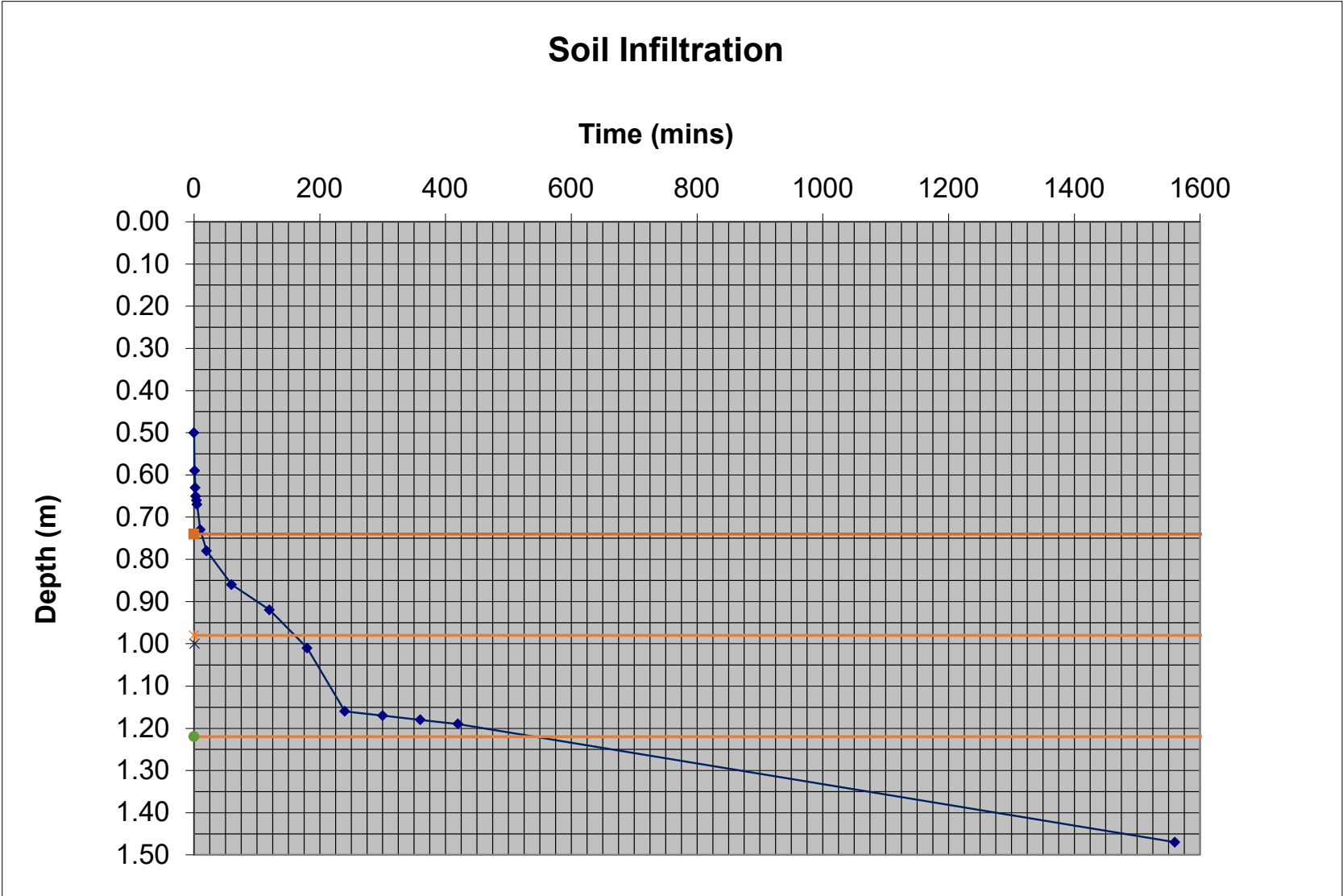
ap₅₀, area of loss (m2) = 4.476

Volume outflow 75 - 25% (m3) = 0.720

From the graph:	
tp 75 (min) =	11
tp 25 (min) =	575

Soil infiltration rate, f, (m/s) = 1.43E-06

Input: RFH Checked: HA Date: 30/05/2024



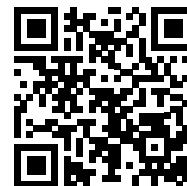
Appendix G

Online Hazwaste results

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)



X3GN5-1FSO8-ELU5E

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

Job name

12066 North Colwell Farm, Haywards Heath

Description/Comments

Project

12066

Site

North Colwell Farm, Haywards Heath

Classified by

Name: **Nick Martin**
 Date: **30 May 2024 08:16 GMT**
 Telephone: **01215920000**
 Company: **PPCP Ltd t/a Patrick Parsons**
Head Office
40 St Paul's Square
Birmingham
B3 1FQ

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

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

10 Feb 2022

Next 3 year Refresher due by Feb 2025

Purpose of classification

2 - Material Characterisation

Address of the waste

North Colwell Farmhouse, Lewes Road, Haywards Heath

Post Code RH17 7SX

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Development of site from greenfield to housing

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

Waste created during excavation of soils from site stripping, foundation excavations and drainage excavations

Description of the waste

Natural sands and clays. Some topsoil.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01	0.2	Non Hazardous		3
2	TP04	0.2	Non Hazardous		5
3	TP06	0.2	Non Hazardous		7
4	TP08	0.2	Non Hazardous		9
5	TP09	0.2	Non Hazardous		11
6	TP12	0.2	Non Hazardous		13
7	HP01	0.1	Non Hazardous		15
8	HP03	0.1	Non Hazardous		17

Related documents

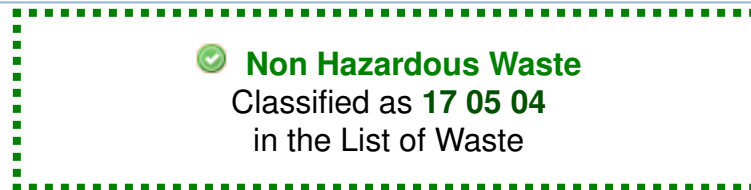
#	Name	Description
1	PP Standard Suite	waste stream template used to create this Job

Report

Created by: Nick Martin

Created date: 30 May 2024 08:16 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	19
Appendix B: Rationale for selection of metal species	20
Appendix C: Version	20

Classification of sample: TP01

Sample details

Sample name:	LoW Code:	
TP01	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		
Moisture content:		
24%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 24% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.9 pH		7.9 pH	7.9 pH		
2	arsenic { arsenic trioxide }				14 mg/kg	1.32	18.485 mg/kg	0.00185 %		
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23 mg/kg	1.462	33.616 mg/kg	0.00336 %		
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				24 mg/kg	3.929	94.297 mg/kg	0.00943 %		
	029-023-00-4	231-847-6	7758-99-8							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	74 mg/kg		74 mg/kg	0.0074 %		
	082-001-00-6									
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 sulfate }				15 mg/kg	2.637	39.55 mg/kg	0.00396 %		
	028-009-00-5	232-104-9	7786-81-4							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
10	zinc { zinc sulphate }				70 mg/kg	2.469	172.851 mg/kg	0.0173 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
18	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	chrysene 601-048-00-0	205-923-4	218-01-9		0.06 mg/kg		0.06 mg/kg	0.000006 %		
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		0.09 mg/kg		0.09 mg/kg	0.000009 %		
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		0.08 mg/kg		0.08 mg/kg	0.000008 %		
Total:								0.0438 %		

Key

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

Classification of sample: TP04

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

Sample details

Sample name:	LoW Code:
TP04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19%	
(no correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.4 pH		7.4 pH	7.4 pH		
2	arsenic { arsenic trioxide }				18 mg/kg	1.32	23.766 mg/kg	0.00238 %		
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	36.539 mg/kg	0.00365 %		
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				26 mg/kg	3.929	102.155 mg/kg	0.0102 %		
	029-023-00-4	231-847-6	7758-99-8							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	72 mg/kg		72 mg/kg	0.0072 %		
	082-001-00-6									
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 sulfate }				15 mg/kg	2.637	39.55 mg/kg	0.00396 %		
	028-009-00-5	232-104-9	7786-81-4							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
10	zinc { zinc sulphate }				71 mg/kg	2.469	175.32 mg/kg	0.0175 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.19 mg/kg		0.19 mg/kg	0.000019 %		
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.19 mg/kg		0.19 mg/kg	0.000019 %		
18	benzo[ghi]perylene 205-883-8		191-24-2		0.12 mg/kg		0.12 mg/kg	0.000012 %		
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.07 mg/kg		0.07 mg/kg	0.000007 %		
20	chrysene 601-048-00-0	205-923-4	218-01-9		0.17 mg/kg		0.17 mg/kg	0.000017 %		
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		0.27 mg/kg		0.27 mg/kg	0.000027 %		
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		0.1 mg/kg		0.1 mg/kg	0.00001 %		
25	phenanthrene 201-581-5		85-01-8		0.13 mg/kg		0.13 mg/kg	0.000013 %		
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		0.23 mg/kg		0.23 mg/kg	0.000023 %		
Total:								0.0455 %		

Key

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

Classification of sample: TP06
 **Non Hazardous Waste**
 Classified as **17 05 04**
 in the List of Waste

Sample details

Sample name:	LoW Code:	
TP06	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		
Moisture content:		
20%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 20% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.1	pH		7.1	pH	7.1 pH		
2	arsenic { arsenic trioxide }				16	mg/kg	1.32	21.125	mg/kg	0.00211 %		
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
4	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									
5	copper { copper sulphate pentahydrate }				18	mg/kg	3.929	70.723	mg/kg	0.00707 %		
	029-023-00-4	231-847-6	7758-99-8									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	38	mg/kg		38	mg/kg	0.0038 %		
	082-001-00-6											
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 sulfate }				11	mg/kg	2.637	29.004	mg/kg	0.0029 %		
	028-009-00-5	232-104-9	7786-81-4									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.1	mg/kg	1.405	1.546	mg/kg	0.000155 %		
	034-002-00-8											
10	zinc { zinc sulphate }				48	mg/kg	2.469	118.526	mg/kg	0.0119 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
13	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
14	anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		0.28 mg/kg		0.28 mg/kg	0.000028 %		
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		0.27 mg/kg		0.27 mg/kg	0.000027 %		
18	benzo[ghi]perylene 205-883-8		191-24-2		0.18 mg/kg		0.18 mg/kg	0.000018 %		
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.14 mg/kg		0.14 mg/kg	0.000014 %		
20	chrysene 601-048-00-0	205-923-4	218-01-9		0.24 mg/kg		0.24 mg/kg	0.000024 %		
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		0.28 mg/kg		0.28 mg/kg	0.000028 %		
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		0.17 mg/kg		0.17 mg/kg	0.000017 %		
25	phenanthrene 201-581-5		85-01-8		0.13 mg/kg		0.13 mg/kg	0.000013 %		
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		0.27 mg/kg		0.27 mg/kg	0.000027 %		
Total:								0.0316 %		

Key

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

Classification of sample: TP08

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

Sample details

Sample name:	LoW Code:
TP08	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
20%	
(no correction)	

Hazard properties

None identified

Determinands

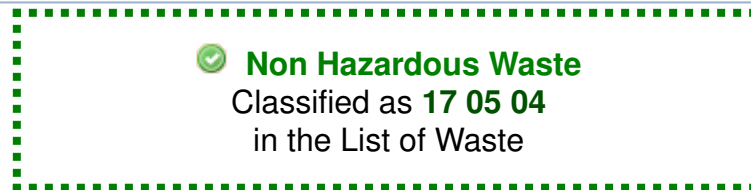
Moisture content: 20% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				6.9 pH		6.9 pH	6.9 pH		
2	arsenic { arsenic trioxide }				19 mg/kg	1.32	25.086 mg/kg	0.00251 %		
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	36.539 mg/kg	0.00365 %		
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				24 mg/kg	3.929	94.297 mg/kg	0.00943 %		
	029-023-00-4	231-847-6	7758-99-8							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	46 mg/kg		46 mg/kg	0.0046 %		
	082-001-00-6									
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 sulfate }				17 mg/kg	2.637	44.824 mg/kg	0.00448 %		
	028-009-00-5	232-104-9	7786-81-4							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
10	zinc { zinc sulphate }				76 mg/kg	2.469	187.667 mg/kg	0.0188 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
18	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
Total:								0.044 %		

Key

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

Classification of sample: TP09

Sample details

Sample name:	LoW Code:
TP09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23%	
(no correction)	

Hazard properties

None identified

Determinands

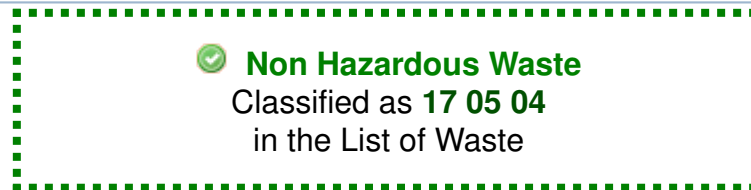
Moisture content: 23% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.3	pH		7.3	pH	7.3 pH		
2	arsenic { arsenic trioxide }				13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				23	mg/kg	3.929	90.368	mg/kg	0.00904 %		
	029-023-00-4	231-847-6	7758-99-8									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	120	mg/kg		120	mg/kg	0.012 %		
	082-001-00-6											
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 sulfate }				12	mg/kg	2.637	31.64	mg/kg	0.00316 %		
	028-009-00-5	232-104-9	7786-81-4									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
10	zinc { zinc sulphate }				67	mg/kg	2.469	165.443	mg/kg	0.0165 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
13	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
14	anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
18	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		0.08 mg/kg		0.08 mg/kg	0.000008 %		
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		0.08 mg/kg		0.08 mg/kg	0.000008 %		
Total:								0.0465 %		

Key

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

Classification of sample: TP12

Sample details

Sample name:	LoW Code:	
TP12	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m		
Moisture content:		
21%		
(no correction)		

Hazard properties

None identified

Determinands

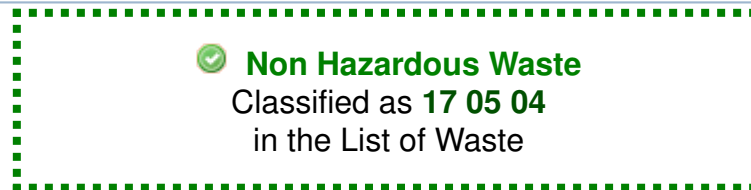
Moisture content: 21% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7 pH		7 pH	7pH		
2	arsenic { arsenic trioxide }				20 mg/kg	1.32	26.407 mg/kg	0.00264 %		
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	36.539 mg/kg	0.00365 %		
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				23 mg/kg	3.929	90.368 mg/kg	0.00904 %		
	029-023-00-4	231-847-6	7758-99-8							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	75 mg/kg		75 mg/kg	0.0075 %		
	082-001-00-6									
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 sulfate }				14 mg/kg	2.637	36.914 mg/kg	0.00369 %		
	028-009-00-5	232-104-9	7786-81-4							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
10	zinc { zinc sulphate }				59 mg/kg	2.469	145.688 mg/kg	0.0146 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
16	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
17	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
18	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
20	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluoranthene 205-912-4		206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
25	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
26	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
27	pyrene 204-927-3		129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
Total:								0.0416 %		

Key

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

Classification of sample: HP01

Sample details

Sample name:	LoW Code:
HP01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.1 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23%	
(no correction)	

Hazard properties

None identified

Determinands

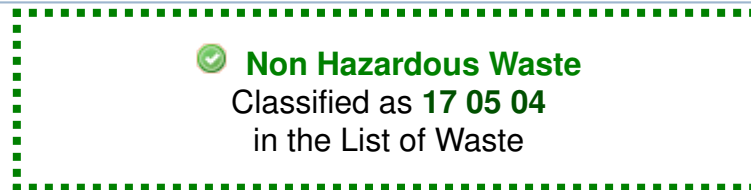
Moisture content: 23% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7 pH		7 pH	7pH		
2	arsenic { arsenic trioxide }				17 mg/kg	1.32	22.446 mg/kg	0.00224 %		
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24 mg/kg	1.462	35.077 mg/kg	0.00351 %		
		215-160-9	1308-38-9							
5	copper { copper sulphate pentahydrate }				22 mg/kg	3.929	86.439 mg/kg	0.00864 %		
	029-023-00-4	231-847-6	7758-99-8							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	150 mg/kg		150 mg/kg	0.015 %		
	082-001-00-6									
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 sulfate }				12 mg/kg	2.637	31.64 mg/kg	0.00316 %		
	028-009-00-5	232-104-9	7786-81-4							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
10	zinc { zinc sulphate }				62 mg/kg	2.469	153.096 mg/kg	0.0153 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2 mg/kg	1.923	<2.308 mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
13	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
14	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
15		benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-033-00-9	200-280-6	56-55-3							
16		benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-032-00-3	200-028-5	50-32-8							
17		benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2							
18	■	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-883-8	191-24-2							
19		benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-036-00-5	205-916-6	207-08-9							
20		chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-048-00-0	205-923-4	218-01-9							
21		dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
22	■	fluoranthene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
			205-912-4	206-44-0							
23	■	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7							
24	■	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5							
25	■	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8							
26		naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
27	■	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0							
Total: 0.0484 %											

Key

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

Classification of sample: HP03

Sample details

Sample name:	LoW Code:
HP03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.1 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
28%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 28% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.1	pH		7.1	pH	7.1 pH		
2	arsenic { arsenic trioxide }				19	mg/kg	1.32	25.086	mg/kg	0.00251 %		
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfide }			1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6									
4	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									
5	copper { copper sulphate pentahydrate }				20	mg/kg	3.929	78.581	mg/kg	0.00786 %		
	029-023-00-4	231-847-6	7758-99-8									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	29	mg/kg		29	mg/kg	0.0029 %		
	082-001-00-6											
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 sulfate }				16	mg/kg	2.637	42.187	mg/kg	0.00422 %		
	028-009-00-5	232-104-9	7786-81-4									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
10	zinc { zinc sulphate }				55	mg/kg	2.469	135.811	mg/kg	0.0136 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
13	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
14	anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
16	benzo[a]pyrene; benzo[def]chrysene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
	601-032-00-3	200-028-5	50-32-8								
17	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
18	benzo[ghi]perylene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
		205-883-8	191-24-2								
19	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
20	chrysene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
	601-048-00-0	205-923-4	218-01-9								
21	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
22	fluoranthene				0.22 mg/kg		0.22 mg/kg	0.000022 %			
		205-912-4	206-44-0								
23	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
24	indeno[123-cd]pyrene				0.09 mg/kg		0.09 mg/kg	0.000009 %			
		205-893-2	193-39-5								
25	phenanthrene				0.09 mg/kg		0.09 mg/kg	0.000009 %			
		201-581-5	85-01-8								
26	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
27	pyrene				0.23 mg/kg		0.23 mg/kg	0.000023 %			
		204-927-3	129-00-0								
Total:									0.0365 %		

Key

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

Appendix A: Classifier defined and non EU CLP determinands

• pH (CAS Number: PH)

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

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

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

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

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

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

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

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

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

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

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

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

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

• fluoranthenes (EC Number: 205-912-4, CAS Number: 206-44-0)

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

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

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

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

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

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

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

(enter justification for selecting this species)

copper {copper sulphate pentahydrate}

(enter justification for selecting this species)

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

There isn't enough Metal and Cr(VI) to make the Metal chromate -and no hazardous levels.

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel sulfate}

There isn't enough Metal and Cr(VI) to make the Metal chromate and no hazardous levels.

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

(enter justification for selecting this species)

zinc {zinc sulphate}

There isn't enough Metal and Cr(VI) to make the Metal chromate and no hazardous levels.

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

(enter justification for selecting this species)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018

HazWasteOnline Classification Engine Version: 2024.149.6082.11243 (28 May 2024)

HazWasteOnline Database: 2024.149.6082.11243 (28 May 2024)

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 H

Patrick Parsons Generic Assessment Criteria (GAC)

Generic Assessment Criteria

		Residential with Homegrown Produce			Residential without Homegrown Produce			Allotments			Commercial			Public Open Space Near Residential Housing			Public Open Space Park		
SOM %		1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6	1	2.5	6
Metals and Inorganics (non SOM dependent)	Arsenic		37			40			43			640			79			170	
	Beryllium		1.7			1.7			35			12			2.2			63	
	Boron		290			11000			45			240000			21000			46000	
	Cadmium		11			85			1.9			190			120			555	
	Chromium (III)		910			910			18000			8600			1500			33000	
	Chromium (VI) (Hexavalent)		6			6			1.8			33			7.7			220	
	Copper		2400			7100			520			68000			12000			44000	
	Elemental Mercury		1.2			1.2			21			58			16			30	
	Inorganic Mercury		40			56			19			1100			120			240	
	Methylmercury		11			15			6			320			40			68	
	Lead		200			310			80			2300			630			1300	
	Nickel		130			180			53			980			230			800	
	Selenium		250			430			88			12000			1100			1800	
	Vanadium		410			1200			91			9000			2000			5000	
	Zinc		3700			40000			620			730000			81000			170000	
Polyaromatic Hydrocarbons	Acenaphthene	210	510	1100	3000	4700	6000	34	85	200	84000	97000	100000	15000	15000	15000	29000	30000	30000
	Acenaphthylene	170	420	920	2900	4600	6000	28	69	160	83000	97000	100000	15000	15000	15000	29000	30000	30000
	Anthracene	2400	5400	11000	31000	35000	37000	380	950	2200	520000	540000	540000	74000	74000	74000	150000	150000	150000
	Benzo[a]anthracene	7.2	11	13	11	14	15	2.9	6.5	13	170	170	180	29	29	29	49	56	62
	Benzo[a]pyrene	2.2	2.7	3	3.2	3.2	3.2	0.97	2.0	3.5	35	35	36	5.7	5.7	5.7	11	12	13
	Benzo[b]fluoranthene	2.6	3.3	3.7	3.9	4.0	4.0	0.99	2.1	3.9	44	44	45	7.1	7.2	7.2	13	15	16
	Benzo[ghi]perylene	320	340	350	360	360	360	290	470	640	3900	4000	4000	640	640	640	1400	1500	1600
	Benzo[k]fluoranthene	77	93	100	110	110	110	37	75	130	1200	1200	1200	190	190	190	370	410	440
	Chrysene	15	22	27	30	31	32	4.1	9.4	19	350	350	350	57	57	57	93	110	120
	Dibenz[ah]anthracene	0.24	0.28	0.3	0.31	0.32	0.32	0.14	0.27	0.43	3.5	3.6	3.6	0.57	0.57	0.58	1.1	1.3	1.4
	Fluoranthene	280	560	890	1500	1600	1600	52	130	290	23000	23000	23000	3100	3100	3100	6300	6300	6400
	Fluorene	170	400	860	2800	3800	4500	27	67	160	63000	68000	71000	9900	9900	9900	20000	20000	20000
	Indeno[123-cd]pyrene	27	36	41	45	46	46	9.5	21	39	500	510	510	82	82	82	150	170	180
	Naphthalene	2.3	5.6	13	2.3	5.6	13	4.1	10	24	190	460	1100	4900	4900	4900	1200	1900	3000
	Phenanthrene	95	220	440	1300	1500	1500	15	38	90	22000	22000	23000	3100	3100	3100	6200	6200	6300
	Pyrene	620	1200	2000	3700	3800	3800	110	270	620	54000	54000	54000	7400	7400	7400	15000	15000	15000
	Coal Tar (B[a]P as surrogate marker)	0.79	0.98	1.1	1.2	1.2	1.2	0.32	0.67	1.2	15	15	15	2.2	2.2	2.2	4.4	4.7	4.8
Petroleum Hydrocarbons	Benzene	0.087	0.17	0.37	0.38	0.7	1.4	0.017	0.034	0.075	27	47	90	72	72	73	90	100	110
	Toluene	130	290	660	880	1900	3900	22	51	120	56000	110000	180000	56000	56000	56000	87000	95000	100000
	Ethylbenzene	47	110	260	83	190	440	16	39	91	5700	13000	27000	24000	24000	25000	17000	22000	27000
	m-Xylene	59	140	320	82	190	450	31	74	170	6200	14000	31000	41000	42000	43000	17000	24000	32000
	o-Xylene	60	140	330	88	210	480	28	67	160	6600	15000	33000	41000	42000	43000	17000	24000	33000
	p-Xylene	56	130	310	79	180	430	29	69	160	5900	14000	30000	41000	42000	43000	17000	23000	31000
	Aliphatic EC 5-6	42	78	160	42	78	160	730	1700	3900	3200	5900	12000	570000	590000	600000	95000	130000	180000
	Aliphatic EC >6-8	100	230	530	100	230	530	2300	5600	13000	7800	17000	40000	600000	610000	620000	150000	220000	320000
	Aliphatic EC >8-10	27	65	150	27	65	150	320	770	1700	2000	4800	11000	13000	13000	13000	14000	18000	21000
	Aliphatic EC >10-12	130	330	760	130	330	770	2200	4400	7300	9700	23000	47000	13000	13000	13000	21000	23000	24000
	Aliphatic EC >12-16	1100	2400	4300	1100	2400	4400	11000	13000	13000	59000	82000	90000	13000	13000	13000	25000	25000	26000
	Aliphatic EC >16-35	65000	92000	110000	65000	92000	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000
	Aliphatic EC >35-44	65000	92000	110000	65000	92000	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000
	Aromatic EC 5-7 (benzene)	70	140	300	370	690	1400	13	27	57	26000	46000	86000	56000	56000	56000	76000	84000	92000
	Aromatic EC >7-8 (toluene)	130	290	660	860	1800	3900	22	51	120	56000	110000	180000	56000	56000	56000	87000	95000	100000
	Aromatic EC >8-10	34	83	190	47	110	270	8.6	21	51	3500	8100	17000	5000	5000	5000	7200	8500	9300
	Aromatic EC >10-12	74	180	380	250	590	1200	13	31	74	16000	28000	34000	5000	5000	5000	9200	9700	10000
	Aromatic EC >12-16	140	330	660	1800	2300	2500	23	57	130	36000	37000	38000	5100	5100	5000	10000	10000	10000
	Aromatic EC >16-21	260	540	930	1900	1900	1900	46	110	260	28000	28000	28000	3800	3800	3800	7600	7700	7800
	Aromatic EC >21-35	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900
	Aromatic EC >35-44	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900
	Petroleum Hydrocarbons EC >44-70	1600	1800	1900	1900	1900	1900	1200	2100	3000	28000	28000	28000	3800	3800	3800	7800	7800	7900

UK Locations

Ash Vale
Birmingham
London
Wakefield

