

A Phase III Geoenvironmental and Geotechnical Report for Troy Homes.

Address: Land Turnpike Lane, Ickleford, Hitchin, SG5 3UZ.

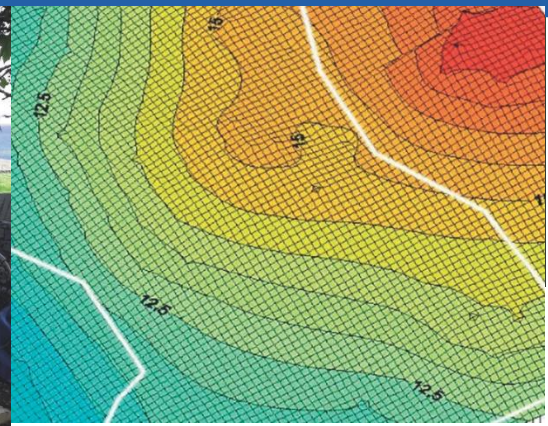
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Executive Summary

The site is located on vacant land off Turnpike Lane, Ickleford and occupies approximately 0.30ha. It is proposed to redevelop the site with residential properties, with associated hard and soft landscaping areas including private gardens.

A previous Phase I Desk Study Report was undertaken on site by others, which includes the geological assessment and historical map assessment. This report indicates that there are no onsite or offsite sources of contamination that could affect the proposed development.

During our investigation works, which comprised a series of trial pits and DCP CBR probes, the soils encountered comprised TOPSOIL (-0.20/0.60m) over firm gravelly CLAY (-0.70/1.20m) over medium-dense gravelly SAND (-2.00/2.80m) over stiff gravelly CLAY (-3.00m+).

Immediate subsoil conditions comprise a firm silty gravelly clay and based on the results of the in-situ testing an allowable bearing pressure (ABP) of 80kPa is considered to be suitable. These soils are underlain by medium-dense gravelly SANDs (between 0.60/1.20m bgl) for which spread foundations would benefit from an improved APB of 200kPa, all foundations will need to be suitably toed into this material. It is recommended, given the observed variability, that all foundations are inspected by a suitably qualified geotechnical engineer to ensure the foundations are deepened down into the suitable strata.

NHBC MEDIUM Volume Change Potential soil condition applies with respect to deepening foundations near trees/vegetation. A minimum foundation depth of 0.90m is recommended.

Suspended floor slabs are applicable for all buildings in line with NHBC Guidance.

Concrete Design Sulphate Class of DS-1 should be assumed, on the basis of the test results, with ACEC site classification of AC-1.

The samples analysed of this were generally free from significant contamination, however, a single Arsenic exceedance (78mg/kg) was recorded in the vicinity of TP101. Additional Arsenic screening is recommended following the proposed site strip, as this elevated concentration is likely linked to the accidental inclusion of some burnt materials, and will likely be removed during the strip.

A 100mm site strip is recommended to remove the dense vegetation and deleterious materials (bricks, concrete and metal etc). In any new areas of gardens/soft landscaping, it would be prudent to allow for a minimum of 150mm of site-won certified clean topsoil to allow for a growing medium. The landscape gardener contractor, may request a more significant depth of topsoil, depending on the planting requirements. This should be confirmed.

The topsoil and underlying natural soils can be disposed of as Inert, however, the topsoil would need to be disposed of as Non-Hazardous.

The contamination screening values used are valid at the time of writing but may be subject to change and any such changes will have implications for the assessments based upon them. Their validity should be confirmed at the time of site development.

1 Introduction and Site Location

The CDS Group have been requested to undertake a Phase III Geotechnical and Geoenvironmental Assessment. The aim of this investigation is to ascertain the historical nature of the site and to identify any potential geotechnical and/or geoenvironmental issues, which could impact on the proposed redevelopment of the site.

The proposed development area has been assessed on a 1km area of influence: grid reference 518172, 231429 and the nearest postcode is SG5 3UZ. The site is calculated as being approximately 0.30 ha.



Figure 1. OS map of the site (boundary indicated in red)



Figure 2. Aerial Image of the site (boundary indicated in red)

2 Development Proposals

The site is due to be developed with residential properties, along with associated hard and soft landscaping areas including private gardens.

In accordance with published guidance (CLEA Model 2009/C4SL Report 2014), the site is classified as Residential with homegrown produce.

CIRIA Guidance (C665) classifies the development type as a High gas sensitivity.

3 Background Information

3.1 Desk Study

The site has been the subject of previous reports, details of which are given in the table below:

Table 1. Previous Reports

Ref	Date	Author	Title/Ref No.	Subject
1	May 2022	Brown 2 Green	3039/Rpt 1v1	Geo-Environmental and Geotechnical Desk Study and Site Investigation Report
2	April 2023	C.J. Emm Ltd	091D42-DR/01	Drainage Report

The reports provided relatively good coverage and characterisation of the site.

The reader is referred to the original report for supporting detail if needed. The report is referred to below by the number given in the left-hand column of the above table.

3.2 Site History

The desk study [1] did not identify any potential contamination sources, on or offsite. No tanks were noted during the walkover. The only risk arises from any unforeseen sources of contamination. Some limited chemical testing was undertaken, along with some limited geotechnical testing. The risk of ground gas has also been ruled out. Some further confirmatory testing is recommended, including waste acceptance testing.

A number of soakage tests were undertaken [2], which indicated that shallow soakaways would be feasible for the site.

3.3 Relevant Pollutant Linkages

The original site investigation [1] and risk assessments undertaken to date, have identified the following Relevant Pollutant Linkages for the site:

Table 2. Pollutant Linkages Table

Contaminant/Source	Pathways	Receptors
Unforeseen sources of contamination – Made Ground	Ingestion/inhalation/dermal contact Direct Contact	End Users and construction Workers Structures

4 Site Investigation

4.1 Site Topography

The site and the surrounding area appears to be generally flat at approximately +60m AOD.

4.2 Site Investigation

An intrusive site investigation was undertaken on the 10th May 2023, with a total of five trial pits excavated across the site using a JCB 3CX. In addition, 5 No. DCP CBRs were undertaken around the site to provide an initial assessment. An additional six trial pits were constructed on the 8th July 2024, to allow for additional plot specific soil logging and also to undertake two BRE365 soakage tests.

The trial pits were excavated at the approximate locations shown below in Figure 3, to maximum depths of 3.0m bgl. The trial pits were distributed across the entire site to assess soil variability and depth to groundwater.



Figure 3. Trial Pit Location plan

4.3 Soils as Found

The soils encountered are described in detail on the attached exploratory hole logs in Appendix A, but in general comprised a covering of TOPSOIL over gravelly SAND over gravelly CLAY. The following table provides a general summary of the soils as found on site.

Table 3. Soils as Found

Depth m bgl (Top to Base)	Soil Type	Description
GL to 0.20m/0.60m	TOPSOIL	Dark brown slightly clayey sandy TOPSOIL with brick fragments, whole bricks
-0.70/1.20m	Gravelly CLAY	Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints. <i>[absent in TP102]</i>
-2.00 / 2.80m	Gravelly SAND	Medium-dense becoming dense orange-brown / grey becoming yellow-brown slightly clayey gravelly SAND. Gravels consist of fine to coarse sub-angular flints and calcareous shells.
3.00m+	Gravelly CLAY	Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.

4.4 Groundwater

Groundwater was encountered in a number of the trial pits, as below:

Table 4. Groundwater Strikes

TP#	Details
TP101 @ 1.80m	Moderate inflow
TP102 @ 2.00m	Moderate inflow
TP103 @ 2.00m	Moderate inflow
TP104 @ 2.30m	Moderate inflow
TP201 @ 1.60m	Soils becoming damp
TP202 @ 1.60m	Soils becoming damp
TP203 @ 2.70m	Slow inflow
TP204 @ 2.00m	Slow inflow
TP205 @ 2.20m	Moderate inflow
TP206 @ 2.70m	Moderate inflow

4.5 Trench Stability

It was observed during our intrusive works, that the underlying cohesive soils tended to be generally stable in the short term, whilst the granular soils were unstable, especially below the water strikes.

5 Geotechnical Assessment

5.1 Laboratory Results

Eight Atterberg Limit tests were undertaken on selected samples of the variable drift deposits identified on site between the two site investigations. The PI results ranged from 9% - 26%.

Therefore, on balance, we would recommend that **MEDIUM** Volume Change Potential should be assumed.

With clay generally encountered within 2m of surface across the site, sub-grades should therefore be considered **MEDIUM** VCP, and foundations should be designed in accordance with NHBC Chapter 4.2 guidelines for the design of new foundations/floor slabs.

Whilst the six PSD Wet Sieves were undertaken on selected samples of the sand soils recovered. The granular deposits appear to be well graded fine to coarse gravelly SANDs, with a measured fines fraction of between 8-9%.

5.2 Groundwater Levels

Groundwater was encountered during the site investigation, albeit at depth. Some contingences for sump pumping of foundation excavations might be prudent.

Groundwater levels, especially in reworked made ground soils, may vary from season to season and year to year with levels potentially rising near surface in wet or winter periods. Groundworks should

make allowances for encountering the localised groundwater pockets and dewatering from sumps within the main excavations should be allowed for at this stage.

5.3 Soakaways

The soakage testing undertaken in the previous drainage report [2] indicated that shallow conventional soakaways would prove feasible for the site.

A total of 2 No. BRE365 soakage tests were carried out on the site, at the locations shown on the attached site plan.

The full results of the soakage tests are appended, with the soakage rate from each trial hole is summarised in the table below.

Table 5. BRE365 TP Soakage Results

Results of BRE 365 Soakage tests				
Pit	Depth (m)	f l/m ² /min	BRE Units (m/sec)	Comments
TP201	1.60	2.10	3.49x10 ⁻⁵	1000l of water added per test. Three tests undertaken
TP202	1.60	0.567	9.45x10 ⁻⁶	1000l of water added per test. Two tests undertaken due to time constraints.
Mean Values		1.33	2.22 x10⁻⁵	

Typically, a minimum soakage rate of 0.1 l/m²/min is required for conventional soakaways to meet the BRE365 requirement of a soakaway half empty time of less than 24 hours. As such, the use of conventional soakaways appears viable for the site.

Groundwater levels can vary considerably from season to season and year to year, often rising in wet or winter weather, and falling in periods of drought. As such, a high groundwater table may affect the storage capacity of soakaways (where applicable). In addition, it should be noted that an unsaturated zone may be required between the base of soakaways and the groundwater table, by the Environment Agency.

Where three fills have not been undertaken a reduction factor should be applied.

Any soakaway scheme will require the approval of the Environment Agency, Building Control and, where applicable, the adopting Highways Authority.

5.4 Sulphates and Acidity

Six BRE SD1 suites were undertaken during the recent investigation. The oxidisable sulphates did not exceed 0.3% in any of the samples, inferring that pyrite is not significantly present.

The samples tested recorded pH values in the range of 8.2 – 8.7, which are neutral to slightly alkaline in reaction.

All of the samples tested reported water soluble sulphate results of <500mg/l, on this basis, analysis of the results infers DS-1, AC-1 condition. This concurs with the original investigation [1].

5.5 Foundation Design

5.5.1 Shallow Foundations

Immediate subsoil conditions comprise a firm silty gravelly clay and based on the results of the in-situ testing an allowable bearing pressure (ABP) of 80kPa is considered to be suitable. These soils are underlain by medium-dense gravelly SANDs (between 0.60/1.20m bgl) for which spread foundations would benefit from a improved APB of 200kPa, all foundations will need to be suitably toed into this material. It is recommended, given the observed variability, that all foundations are inspected by a suitably qualified geotechnical engineer to ensure the foundations are deepened down into the suitable strata.

Consideration should be given to the inclusion of a nominal mesh reinforcement to help reduce the effects of any potential differential/seasonal movement.

NHBC MEDIUM Volume Change Potential soil condition applies with respect to deepening foundations near trees/vegetation. A minimum foundation depth of 0.90m is recommended.

Precautions regarding swelling and shrinkage are applicable and in this respect NHBC precautions provide a helpful guide with respect to minimum foundations depths and deepening, particularly within the zone of influence of trees or shrubs; existing, proposed or removed.

Subject to the Engineers final design, excessive foundation deepening may be required. Based on NHBC guidance, foundations below 2.5m must be designed individually by an engineer, on an individual property basis, taking into account soil desiccation, heave, lateral pressure, trench stability and workmanship. At depths in excess of 2.5m, a piled foundation is usually the most appropriate foundation option.

5.6 Floor Slabs

Given the immediate sub-grades are locally clayey and may be prone to influence from existing and proposed vegetation, we would recommend allowance be made for a fully suspended block and beam type floor slabs throughout.

5.7 Settlement

For foundations constructed as discussed above, and assuming site levels are to remain approximately as per existing, then settlements are anticipated to be with standard construction tolerances (<25mm).

5.8 Excavations and trenching

Statutory support will be required in all excavations where personnel must work. The trial pits were generally stable in the cohesive shallow soils in the short term, there was some instability in the deeper granular soils. For all excavations close lateral support will be required.

5.9 Road Construction

DCP CBR probes were undertaken at five locations. The profiles are appended and provide an inferred CBR value from ground level to a depth of 1.0m bgl. Below the topsoil, the cohesive sub-grades generally offer a CBR of around 2.9% - 7.0%, which should be confirmable in-situ, allowing for proof rolling etc.

The subsoil's generally reported plasticity indices above 20%. On this basis the soils on site are potentially frost susceptible and road construction thickness should be increased accordingly.

For preliminary design purposes of a CBR value of 5% can be assumed for pavement design on these natural soils. However, given that the soils are likely to be disturbed by heavy plant during demolition and construction, it may be prudent to reassess the CBR value as construction progresses.

The most important element of any road construction is drainage and attention must be given not only to the drainage of the subsoil but to the various layers of construction. To this end, the formation should be shaped to a camber or crossfall to allow water movement out of the sub-base. Sub-base and coarse capping materials tend to segregate during placing operations, particularly when end tipped.

The formation should be proof rolled and any soft spots found should be excavated and replaced with compacted granular material. The surface of the formation should then be compacted, prior to laying the road sub-base.

Construction traffic should be kept off formations and it is often advisable to leave a protective layer of soil above formation level until the last moment before placing the sub-base.

6 Preliminary Environmental Assessment

6.1 Analytical Assessment Criteria

CDS have undertaken the contamination assessment based on the Source – Pathway – Receptor risk assessment methodology.

Soil screening values have been utilised where possible from the CLEA model (Updated Technical Background to the CLEA Model, 2009), which utilises toxicological data to calculate a Soil Guidance Value or SGV, which can be used as a screening value based on the proposed end use of the site (i.e residential/commercial/industrial).

Where an SGV is not available for a given substance, a screening value is derived based on guidance including the LQM/CIEH S4UL's for Human Health Risk Assessment (2014) and The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment (2009).

Screening values for the identified contaminants are valid at the time of writing and any assessment of on site contamination is made against these published figures at the time of writing. Any changes to the proposed end use or published changes to screening values dated after the issue of this report would invalidate any assessment and recommendations made here within.

6.2 Environmental Sampling

The aim of this investigation and subsequent sampling was to provide general coverage around the site.

6.3 Environmental Testing

Potential sources of onsite contamination in the form of unknown made ground soil was identified which could contain a wide range of contaminants including Asbestos, Heavy Metals, Hydrocarbons and PAHS.

The following tests (including the results from the previous investigations) were undertaken on site soils to assess the potential presence of onsite contamination.

- Heavy Metal Screen - (9 topsoil / natural samples)
- PAH's -USEPA 16 - (7 topsoil / natural samples)
- Asbestos Screen- (5 topsoil / natural samples)
- Hydrocarbon Testing TPH CWG - (5 topsoil / natural soil samples)
- WAC analysis – (3 topsoil / natural samples)

6.4 Environmental Test Result Analysis – Heavy Metals, PAH's and Asbestos

6.4.1 Soil Type – Topsoil

A total of five samples of existing topsoil from around the proposed development area were sampled and screened for the range of contaminants identified above (including the previous site investigation). The full results are included in Appendix C and are summarised in the table below:

Table 6. Topsoil – Contamination Results

Determinand	Unit	Number of Samples	Mean	Range	Screening Values (Residential with veg)
Heavy Metals					
Arsenic	mg/kg	5	26	3.6-79 TP101 @ 0.10 – 79 mg/kg	37
Cadmium	mg/kg	5	0.27	<0.10-0.28	11
Chromium III	mg/kg	5	25	8.5-34	910
Chromium VI	mg/kg	2	<0.50	<0.50	6
Copper	mg/kg	5	40	8.4-120	200
Lead	mg/kg	5	77	3.4-140	200
Mercury	mg/kg	5	0.13	<0.10-0.19	7.6
Nickel	mg/kg	5	20	6.5-27	110
Selenium	mg/kg	5	0.70	<0.20-1.1	250
Zinc	mg/kg	5	67	13-99	300
Naphthalene	mg/kg	4	<0.10	<0.10	2.3
Benzo[a]pyrene	mg/kg	4	<0.10	<0.10	1.7
Total PAH's	mg/kg	4	<2.0	<2.0	//
Asbestos Screen	-	4	-	None detected (ND)	-

The results from the contamination testing of the majority of the topsoil have identified no elevated concentrations of heavy metals, PAH's or asbestos above the site specific screening values for Residential with homegrown produce. However, there was a very high Arsenic concentration encountered in the sample from TP101 @ 0.10m. Some additional screening would be prudent in this

area, following the initial site strip. It's likely that this high arsenic could be attributed to the inclusion of some burnt materials.

The majority of the topsoil, as long as it is stripped and stored correctly, it should prove suitable for re-use onsite.

6.4.2 Soil Type – Natural

Four samples of natural soils from around the proposed development area were sampled and screened for the range of contaminants identified above. The full results are included in Appendix C and are summarised in the table below:

Table 7. Natural – Contamination Results

Determinand	Unit	Number of Samples	Mean	Range	Screening Values (Residential with veg)
Heavy Metals					
Arsenic	mg/kg	4	16	12-20	37
Cadmium	mg/kg	4	0.22	0.11-0.27	11
Chromium III	mg/kg	4	26	19-33	910
Chromium IV	mg/kg	2	<0.50	<0.50	6
Copper	mg/kg	4	15	11-19	200
Lead	mg/kg	4	31	19-54	200
Mercury	mg/kg	4	0.18	<0.05-0.3	7.6
Nickel	mg/kg	4	24	17-29	110
Selenium	mg/kg	4	0.53	0.22-0.89	250
Zinc	mg/kg	4	55	41-67	300
PAH's					
Naphthalene	mg/kg	3	<0.10	<0.10	2.3
Benzo[a]pyrene	mg/kg	3	<0.10	<0.10	1.7
Total PAH's	mg/kg	3	<2.0	<2.0	//
Other					
Asbestos Screen	-	1	-	None detected (ND)	-

The results of the contamination testing have identified no elevated concentrations of heavy metals, PAH's or asbestos above the site-specific screening values for Residential with homegrown produce. Therefore, the natural samples analysed appeared to be free from significant levels of contamination. This concurs with the visual and olfactory evidence on site.

6.5 Asbestos Containing Materials

No asbestos containing materials were detected in the samples screened and none were observed in the exploratory holes. There is always the potential for pockets of asbestos or for asbestos containing materials to be present, which have not been detected in the sampling.

It is also our experience that asbestos containing materials are quite often encountered in buried pockets. A watching brief should be put in place should any unforeseen pockets of asbestos be encountered.

6.6 Environmental Test Result Analysis – Hydrocarbons

No concentrations of aromatic and aliphatic compounds were recorded for any of the samples analysed. The concentrations of BTEX compounds were also recorded below the laboratory detection limits. This concurs with the visual and olfactory evidence on site.

6.7 Summary of Results

On the basis of the investigation to date, an isolated elevated concentration of Arsenic was identified within the topsoil sample analysed from TP101, some additional screening is recommended after the initial site strip to determine any further risk.

7 Revised Conceptual Model

Based on the results of the investigation and subsequent contamination testing the initial site conceptual model (undertake by others), has been reviewed and revised to reflect the findings of the investigation.

Table 8. Revised Conceptual Model

Source	Pathway	Receptor	Calculated Risk
Onsite/Offsite contamination arising from current and historical land use	Direct ingestion, direct contact & inhalation of dust/ vapours.	Future Site users.	The calculated risk is deemed to be LOW based on the onsite contamination to be encountered. Some remedial action will be required.
		Construction workers.	The calculated risk is deemed to be LOW based on the potential for onsite contamination to be encountered especially during any excavation. The provision of suitable PPE/RPE during the demolition/construction phase along with detailed method statements and risk assessments would be required to reduce/remove the risk to construction workers to appropriate levels. A discovery strategy should be put in place should any currently un-discovered contamination be encountered.
	Leaching and vertical & lateral migration	Controlled waters	The calculated risk is deemed to be LOW based on the potential for onsite contamination to be encountered.
	Direct infiltration in water supply pipes.	Service conduits	The calculated risk is deemed to be LOW based on the potential for onsite contamination to be encountered.

Source	Pathway	Receptor	Calculated Risk
			Services and incoming pipework will need to be designed in accordance with the suppliers specifications based on the level of identified contamination on site.
	Plant uptake.	Vegetation within landscaped areas.	The calculated risk is deemed to be LOW based on the potential for onsite contamination to be encountered. Some remedial action will be required.
	Lateral migration through groundwater	Off-Site neighbouring properties.	The calculated risk is deemed to be LOW based on the potential for onsite contamination to be encountered.

8 Conclusion

The results should be provided to the contractors for their health and safety appraisal.

An initial site strip of 100mm is recommended to remove the dense vegetation growth, but also to remove the surface debris including bricks, metal and concrete fragments. Following this site strip, some additional arsenic screening is recommended around TP101 to confirm it was an outlier result.

In any new areas of gardens/soft landscaping, it would be prudent to allow for a minimum of 150mm of site-won certified clean topsoil to allow for a growing medium. The landscape gardener contractor, may request a more significant depth of topsoil, depending on the planting requirements. This should be confirmed.

If any topsoil needs to be imported for new soft landscaped/garden areas, this material should be from a reliable source and certified clean; in addition, depending upon the source and local authority requirements, testing may also be required following importation. The existing topsoil onsite could also be re-used, depending on the quantities required. This should be stripped and stockpiled at an early part of the works to protect this resource. The material should also be managed properly.

Organic contaminants present in the soils, particularly PAH's could affect plastic underground service pipes (such as the types used by water and gas supply companies). Guidance should be sought from the relevant companies regarding any proposed plant in the affected area. Many water supply companies now require higher specification pipe on contaminated sites, even following remediation.

As with any site, areas of contamination not identified during site investigation works may come to light in the course of redevelopment. Accordingly, a discovery strategy must be in place during the redevelopment to ensure that any previously unidentified contamination is identified and dealt with in an appropriate manner. Depending on the nature of any such contamination, it may prove necessary to reassess the remedial strategy for the site.

A formal remediation strategy and verification plan should be agreed with the regulatory authorities prior to commencement of any remedial works.

9 Waste Disposal

If arisings from earthworks are intended for disposal, then there is a requirement to determine prior to disposal whether these would classify as:

- Hazardous or;
- Non hazardous

9.1 Waste Classification and Waste Acceptance Criteria (WAC)

The current relevant waste legislation and technical guidance (WM3 1st edition version 1.2GB, 2021) on the assessment and classification of hazardous waste, sets out the requirement for classification and provides the basis for the methodology employed to ensure compliance with the regulations. This report sets out to fulfil the requirements of basic characterisation.

Waste classification indicates whether the material is hazardous or non-hazardous. If material is classified as non-hazardous, there is a choice of sending the material to a non-hazardous or an inert landfill (subject to meeting inert waste acceptance levels based on WAC analysis). Where the waste is classified as hazardous, WAC analysis will be required to demonstrate that the concentrations meet the acceptance levels for hazardous landfill or stable non-reactive hazardous (SNRH) landfill.

The List of Wastes (England) Regulations 2005 shows those wastes that are absolute entries (i.e. hazardous waste regardless of their concentration) and mirror entries (hazardous waste only if hazardous substances are present above the specified threshold concentrations).

Section 17 of the List of Wastes relates to Construction and Demolition Wastes (including Excavated Soil from Contaminated Sites, stones and dredging spoil). Contaminated soil is a “mirror entry” and is not automatically assigned a hazardous or non-hazardous nature. Instead, an assessment of the composition of the soil is undertaken to determine the concentrations of hazardous substances, and the waste classified accordingly. The assessment of contaminated soil to determine whether it is hazardous waste is dependent on the presence of “hazardous substances” exceeding particular thresholds.

9.2 Waste Classification Assessment

The waste classification assessment has been undertaken using the results of the chemical analyses on the samples analysed, including some analysis of the samples recovered during the previous site investigation. The classification of the materials was conducted using the concentrations of each identified substance attributed to its 'worst-case' compound (where relevant), as per Environment Agency (EA) document WM3 (2021) and The Classification, Labelling and Packaging of Substances and Mixtures Regulation 1272/2008 (CLP). The assessment was carried out using the HazWaste Online Toolkit together with Tables 3.1 and 3.2 of CLP Regulation. The details of the waste classification are presented in Appendix C.

A summary of the assessment results is presented in the table below:

Table 9. Waste Classification Assessment

Sample ID	Strata	Classification	EWC	Hazardous Substance	Hazardous Properties
TP101 @ 0.10m	TOPSOIL	Non-Hazardous	17 05 04	n/a	n/a

Sample ID	Strata	Classification	EWC	Hazardous Substance	Hazardous Properties
TP102 @ 0.80m	NATURAL	Non-Hazardous	17 05 04	n/a	n/a
TP103 @ 0.20m	TOPSOIL	Non-Hazardous	17 05 04	n/a	n/a
TP104 @ 0.80m	NATURAL	Non-Hazardous	17 05 04	n/a	n/a
WS1 @ 0.20m	TOPSOIL	Non-Hazardous	17 05 04	n/a	n/a
WS1 @ 0.70m	NATURAL	Non-Hazardous	17 05 04	n/a	n/a
WS3 @ 0.20m	TOPSOIL	Non-Hazardous	17 05 04	n/a	n/a
WS4 @ 0.20m	TOPSOIL	Non-Hazardous	17 05 04	n/a	n/a
SA1 @ 0.50m	NATURAL	Non-Hazardous	17 05 04	n/a	n/a

The TPH results indicated that the samples could be potentially Hazardous, however, these can be discounted as this material is a solid waste and does not have a free draining liquid phase. In addition, during the sampling exercise no vapour or liquid element was noted within the exploratory logs or samples.

Based upon the results of the chemical analysis, the topsoil and natural soils could be classified as Non-Hazardous with EWC Code 17 05 04.

9.3 Waste Acceptance Criteria (WAC) Analysis

WAC analysis was only undertaken on three samples (1 x Topsoil and 2 x Natural – one from previous SI).

Topsoil

Although the WAC testing did not have any exceedances, by default, topsoil is not considered to be inert due to presence of generally high organic matter. The recovered topsoil materials have been described as containing organic matter (roots). On the basis of the above, any surplus topsoil from the site cannot be disposed of as inert. It can, however, be accepted into NON-HAZARDOUS landfill.

Natural

As long as the materials can be kept separate, the underlying natural soils can be disposed of as INERT.

9.4 Recommendations

The chemical analyses undertaken in the course of this investigation have been used to carry out a preliminary waste classification of the materials on site. This report should be forwarded to waste receiving sites for their final decision. Additional testing and Waste Acceptance Criteria (WAC) testing may be needed for confirmation of the material's classification.

If more significant contamination is encountered during the construction works, this may affect the waste classification.

10 Reporting Details

Report Author: Callum Ward BSc FGS – Principal Engineer

Date: 9th July 2024

APPENDIX A

SITE PLAN AND SOIL LOGS



Note: Positions of Boreholes and/or Trial Pits are only indicative

Site Address: Ickleford

Project: ES0073

Fig No: 1

Date: 11 July 2024

The CDS Group, Building 51, Wrest Park, Silsoe, Bedfordshire, MK45 4HS
t:01525 864387 w: www.thecdsgroup.co.uk

Final Siteplan

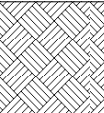
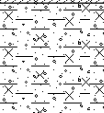
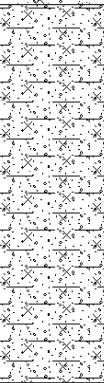
CDS Environmental Solutions				Project Name:		Trial Pit Log			Hole ID:	TP101
				Ickleford					Hole Type:	TP
				Project Location:					Level:	
				Lodge Ct, Ickleford, Hitchin SG5 3UZ		Project ID:	ES0073	Logged By:	CW	
				Client:		Contractor:	The CDS Group	Scale:	1:25	
				Troy Homes		Date:	10/05/2024	Page No:	Sheet 1 of 1	
Water Strikes	Samples and Insitu Testing			Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale	
	Depth (m)	Type	Results							
▼	0.10	ES	UCS=200	0.40		(0.40m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments, whole bricks	0.5	
	0.50	ES				(0.40m)		Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints		
	0.90	D				(1.20m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.		
	1.50	ES		2.00		(1.00m)		Stiff orange-brown/grey mottled gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.	2.0	
	2.10	HP								
	2.20	D								
	2.50	HP		UCS=250	3.00					2.5
2.80	HP	UCS=250								
								End of Trial Pit at 3.000m	3.0	
									3.5	
									4.0	
									4.5	
Dimensions			Trial Pit Support and Stability					Groundwater Strikes		
Pit Length (m)	Pit Width (m)	Pit Stability		Shoring Used		Remarks		Remarks		
		Unstable below water						Slow		
Remarks										

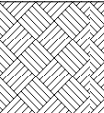
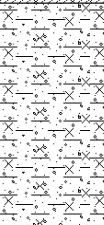
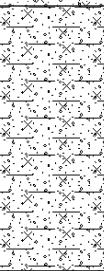
CDS Environmental Solutions				Project Name:		Trial Pit Log			Hole ID:	TP102
				Ickleford					Hole Type:	TP
				Project Location:					Level:	
				Lodge Ct, Ickleford, Hitchin SG5 3UZ					Project ID:	ES0073
				Client:		Contractor:	The CDS Group	Scale:	1:25	
				Troy Homes		Date:	10/05/2024	Page No:	Sheet 1 of 1	
Water Strikes	Samples and Insitu Testing			Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale	
	Depth (m)	Type	Results							
▼				0.60		(0.60m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments and whole bricks	0.5	
	0.80	ES				(1.40m)		Medium-dense becoming dense orange-brown / grey becoming yellow-brown slightly clayey gravelly SAND. Gravels consist of fine to coarse sub-angular flints and calcareous shells.	1.0	
	1.00	D								1.5
	2.20	D		2.00		(0.80m)		Medium-dense orange-brown clayey silty SAND	2.0	
				2.80		(0.20m)		Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints	2.5	
			3.00					End of Trial Pit at 3.000m	3.0	
									3.5	
									4.0	
									4.5	
Dimensions			Trial Pit Support and Stability					Groundwater Strikes		
Pit Length (m)	Pit Width (m)	Pit Stability		Shoring Used		Remarks		Remarks		
		Unstable below water						Slow		
Remarks										

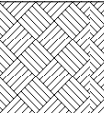
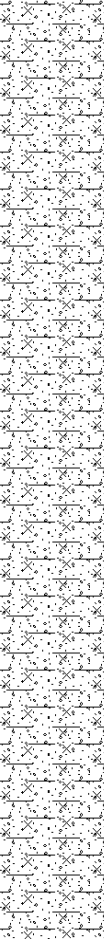
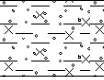
CDS Environmental Solutions				Project Name:		Trial Pit Log		Hole ID:	TP103	
				Ickleford				Hole Type:	TP	
				Project Location:				Level:		
				Lodge Ct, Ickleford, Hitchin SG5 3UZ		Project ID:	ES0073	Logged By:	CW	
				Client:		Contractor:	The CDS Group	Scale:	1:25	
				Troy Homes		Date:	10/05/2024	Page No:	Sheet 1 of 1	
Water Strikes	Samples and Insitu Testing			Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale	
	Depth (m)	Type	Results							
	0.20	ES		0.50		(0.50m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments, whole bricks and concrete cobbles	0.5	
	0.80	ES					(0.70m)			Firm red-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints and
	1.00	D		(1.60m)		Medium-dense becoming dense orange-brown / grey mottled becoming yellow-brown slightly clayey gravelly SAND. Gravels consist fine to coarse sub-angular flints and calcareous shells.				
	1.80	D				(0.20m)				Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints
	2.00	D		End of Trial Pit at 3.000m						
Dimensions			Trial Pit Support and Stability				Groundwater Strikes			
Pit Length (m)	Pit Width (m)	Pit Stability		Shoring Used	Remarks	Remarks				
		Unstable below water				Slow				
Remarks										

CDS Environmental Solutions				Project Name:		Trial Pit Log			Hole ID:	TP104
				Ickleford					Hole Type:	TP
				Project Location:					Level:	
				Lodge Ct, Ickleford, Hitchin SG5 3UZ		Project ID:	ES0073	Logged By:	CW	
				Client:		Contractor:	The CDS Group	Scale:	1:25	
				Troy Homes		Date:	10/05/2024	Page No:	Sheet 1 of 1	
Water Strikes	Samples and Insitu Testing			Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale	
	Depth (m)	Type	Results							
	0.80	ES		0.50 0.70		(0.50m)		Dark brown slightly clayey sandy TOPSOIL with rare brick fragments	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5	
						(0.20m)		Firm red-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints		
							(2.00m)			Medium-dense becoming dense orange-brown grey mottled becoming yellow-brown slightly clayey gravelly SAND. Gravels consist of fine to coarse sub-angular flints and calcareous shells.
	(0.30m)		Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.							
		End of Trial Pit at 3.000m								
Dimensions			Trial Pit Support and Stability				Groundwater Strikes			
Pit Length (m)	Pit Width (m)	Pit Stability		Shoring Used	Remarks	Remarks				
		Unstable below water				Slow				
Remarks										

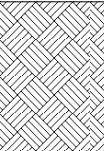
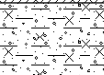
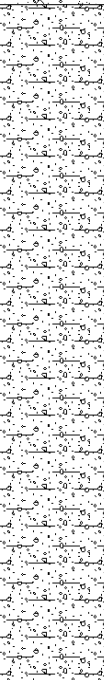
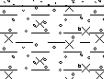
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				Ickleford				Hole Type:	TP					
				Project Location:				Level:						
				Lodge Ct, Ickleford, Hitchin SG5 3UZ				Project ID:	ES0073	Logged By:	CW			
				Client:		Contractor:	The CDS Group	Scale:	1:25					
				Troy Homes		Date:	10/05/2024	Page No:	Sheet 1 of 1					
Water Strikes	Samples and Insitu Testing			Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale					
	Depth (m)	Type	Results											
	0.80 0.90 2.00	ES D D		0.20		(0.20m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments.	0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5					
				(0.80m)			Firm red-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.							
								(0.80m)			Medium-dense becoming dense orange-brown grey mottled becoming yellow-brown slightly clayey gravelly SAND. Gravels consist of fine to coarse sub-angular flints and calcareous shells.			
				(0.50m)			Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints. Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.							
								(0.40m)			Dense orange-brown grey mottled becoming yellow-brown slightly clayey gravelly SAND. Gravels consist of fine to coarse sub-angular flints and calcareous shells.			
				(0.30m)			Stiff orange-brown gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.							
								End of Trial Pit at 3.000m						
				Dimensions			Trial Pit Support and Stability			Groundwater Strikes				
				Pit Length (m)		Pit Width (m)	Pit Stability			Shoring Used	Remarks	Remarks		
							Unstable below water							
Remarks														

CDS Environmental Solutions			Project Name:		Trial Pit Log		Hole ID:	TP201
			Ickleford				Hole Type:	TP
			Project Location:				Level:	
			Lodge Ct, Ickleford, Hitchin SG5 3UZ				Project ID:	ES0073
			Client:		Contractor:	The CDS Group	Scale:	1:20
			Troy Homes		Date:	08/07/2024	Page No:	Sheet 1 of 1
Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description			Vertical Scale
▼	0.30		(0.30m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments			0.5
	0.60		(0.30m)		Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints			
			(1.00m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.			
	1.60				End of Trial Pit at 1.600m			1.5
								2.0
								2.5
								3.0
								3.5
Dimensions			Trial Pit Support and Stability			Groundwater Strikes		
Pit Length (m)	Pit Width (m)		Pit Stability	Shoring Used	Remarks	Remarks		
			Unstable below water					
Remarks								
Damp soils below 1.60m bgl								

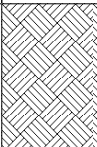
CDS Environmental Solutions			Project Name:		Trial Pit Log		Hole ID:	TP202	
			Ickleford				Hole Type:	TP	
			Project Location:				Level:		
			Lodge Ct, Ickleford, Hitchin SG5 3UZ		Project ID:	ES0073	Logged By:	CW	
			Client:		Contractor:	The CDS Group	Scale:	1:20	
			Troy Homes		Date:	08/07/2024	Page No:	Sheet 1 of 1	
Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description			Vertical Scale	
▼	0.30		(0.30m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments			0.5	
			(0.60m)		Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints				
	0.90		(0.70m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.				1.0
	1.60				End of Trial Pit at 1.600m			1.5	
								2.0	
								2.5	
								3.0	
								3.5	
Dimensions			Trial Pit Support and Stability			Groundwater Strikes			
Pit Length (m)	Pit Width (m)		Pit Stability	Shoring Used	Remarks	Remarks			
			Unstable below water						
Remarks									
Damp soils below 1.60m bgl									

CDS Environmental Solutions			Project Name:		Trial Pit Log		Hole ID:	TP203
			Ickleford				Hole Type:	TP
			Project Location:				Level:	
			Lodge Ct, Ickleford, Hitchin SG5 3UZ		Project ID:	ES0073	Logged By:	CW
			Client:		Contractor:	The CDS Group	Scale:	1:20
			Troy Homes		Date:	08/07/2024	Page No:	Sheet 1 of 1
Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description		Vertical Scale	
▼	0.30		(0.30m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments		0.5 1.0 1.5 2.0 2.5 3.0 3.5	
			(2.50m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.			
	(0.20m)					Stiff orange-brown/grey mottled gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.		
			End of Trial Pit at 3.000m					
Dimensions			Trial Pit Support and Stability			Groundwater Strikes		
Pit Length (m)	Pit Width (m)	Pit Stability		Shoring Used	Remarks	Remarks		
		Unstable below water						
Remarks								
Slow water strike at 2.70m bgl								

CDS Environmental Solutions			Project Name:		Trial Pit Log		Hole ID:	TP204
			Ickleford				Hole Type:	TP
			Project Location:				Level:	
			Lodge Ct, Ickleford, Hitchin SG5 3UZ				Project ID:	ES0073
			Client:		Contractor:	The CDS Group	Scale:	1:20
			Troy Homes		Date:	08/07/2024	Page No:	Sheet 1 of 1
Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description			Vertical Scale
▼	0.30		(0.30m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments			0.5 1.0 1.5 2.0 2.5 3.0 3.5
	0.60		(0.30m)		Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints			
			(1.50m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.			
			(0.40m)		Stiff orange-brown/grey mottled gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.			
	2.50			End of Trial Pit at 2.500m				
Dimensions			Trial Pit Support and Stability			Groundwater Strikes		
Pit Length (m)	Pit Width (m)		Pit Stability	Shoring Used	Remarks	Remarks		
			Unstable below water					
Remarks							AGS	
Slow water strike at 2.00m bgl								

CDS Environmental Solutions			Project Name:		Trial Pit Log		Hole ID:	TP205
			Ickleford				Hole Type:	TP
			Project Location:				Level:	
			Lodge Ct, Ickleford, Hitchin SG5 3UZ				Project ID:	ES0073
			Client:		Contractor:	The CDS Group	Scale:	1:20
			Troy Homes		Date:	08/07/2024	Page No:	Sheet 1 of 1
Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description			Vertical Scale
▼	0.40		(0.40m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments			0.5 1.0 1.5 2.0 2.5 3.0 3.5
	0.60		(0.20m)		Firm red-brown gravelly sandy silty CLAY. Gravels consist of fine to coarse sub-angular flints			
			(1.80m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.			
	2.40		(0.20m)		Stiff orange-brown/grey mottled gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.			
	2.60				End of Trial Pit at 2.600m			
Dimensions			Trial Pit Support and Stability			Groundwater Strikes		
Pit Length (m)	Pit Width (m)		Pit Stability	Shoring Used	Remarks	Remarks		
			Unstable below water					
Remarks								
Moderate water strike at 2.20m bgl								

Project Name:	Trial Pit Log		Hole ID:	TP206
Ickleford			Hole Type:	TP
Project Location:			Level:	
Lodge Ct, Ickleford, Hitchin SG5 3UZ			Project ID:	ES0073
Client:	Contractor:	The CDS Group	Scale:	1:20
Troy Homes	Date:	08/07/2024	Page No:	Sheet 1 of 1

Water Strikes	Depth (m)	Level (m)	Thickness (m)	Legend	Stratum Description	Vertical Scale
	0.40		(0.40m)		Dark brown slightly clayey sandy TOPSOIL with brick fragments	0.5 1.0 1.5 2.0 2.5 3.0 3.5
			(2.40m)		Medium-dense becoming dense orange-brown/grey becoming yellow-brown slightly clayey gravelly SAND. Gravels fine to coarse sub-angular flints and calcareous shells.	
			(0.20m)		Stiff orange-brown/grey mottled gravelly silty CLAY. Gravels consist of fine to coarse sub-angular flints.	
			End of Trial Pit at 3.000m			

Dimensions		Trial Pit Support and Stability			Groundwater Strikes
Pit Length (m)	Pit Width (m)	Pit Stability	Shoring Used	Remarks	Remarks
		Unstable below water			

Remarks		
Moderate water strike at 2.70m bgl		



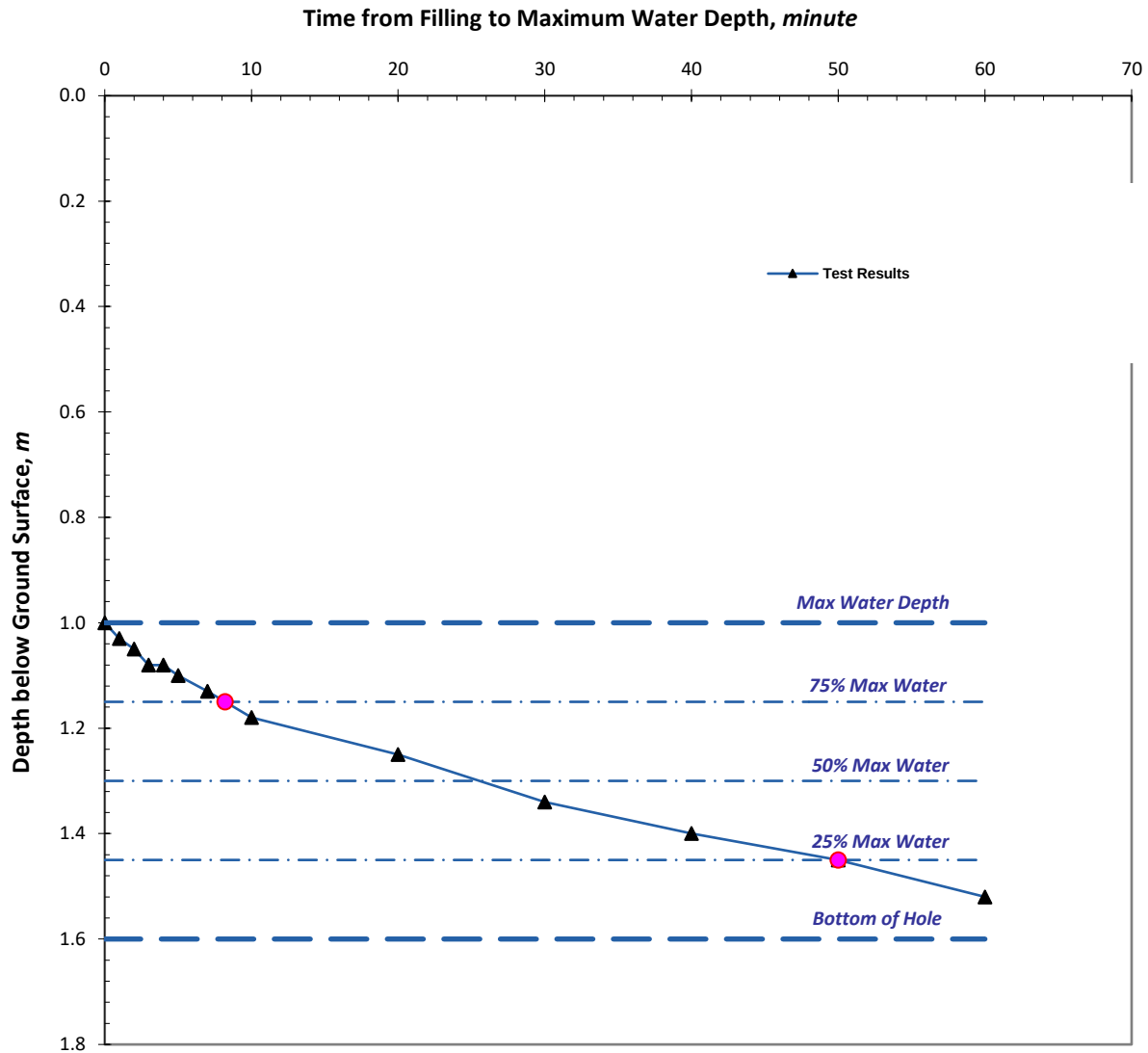
Summary Sheet
Results of BRE Digest DG365 Soakage Tests

Site : Ickleford					Job No : ES0073		
Client : Troy Homes					O S Reference :		
Tested By : KL				Engineer: CW		Test Date : 08/Jul/2024	
Hole No	Test No	Hole Depth <i>m</i>	Soakage Rate for Each Test <i>litre/m² /min</i>	Soakage Rate for Each Hole <i>litre/m² /min m/sec</i>		Water Level at Finish of Test	Remarks
TP201	No 1	1.60	2.81	2.10	3.49E-5	Nearly empty pit.	Depth to top of permeable soils was 0.3m.
TP201	No 2	1.60	2.41			Nearly empty pit.	Dry pit
TP201	No 3	1.60	2.10			Nearly empty pit.	Dry pit
TP202	No 1	1.60	0.590	0.567	9.45E-6	Nearly empty pit.	Depth to top of permeable soils was 0.3m.
TP202	No 2	1.60	0.567			Pit was not emptied; Non compliant value was calculated.	Dry Pit
Mean Value of All Calculated Soakage Rates :				1.33 2.22E-5 <i>litre/m² /min m/sec</i>			

BRE Digest DG365 Soakage Test

Test Hole No: TP201

Test No: Test No 1 (Initial)



Pit Length, m	1.700	Depth to Water at Start of Test, m	1.000
Pit Width, m	0.500	Max Water Dropdown during Test, m	0.520
Depth to Pit Base, m	1.600	Total Soakage Test Time, min	60.0
Depth to Top of Permeable Soils, m	0.300	Mean Internal Discharge Area, m ²	2.170
Depth to Groundwater Surface, m		Discharge Rate, litre/min	6.100
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	2.81
Voids Assumed for Granular Fill, %	100%	BRE Soil Infiltration Rate, m/sec	4.69E-05

Comments:

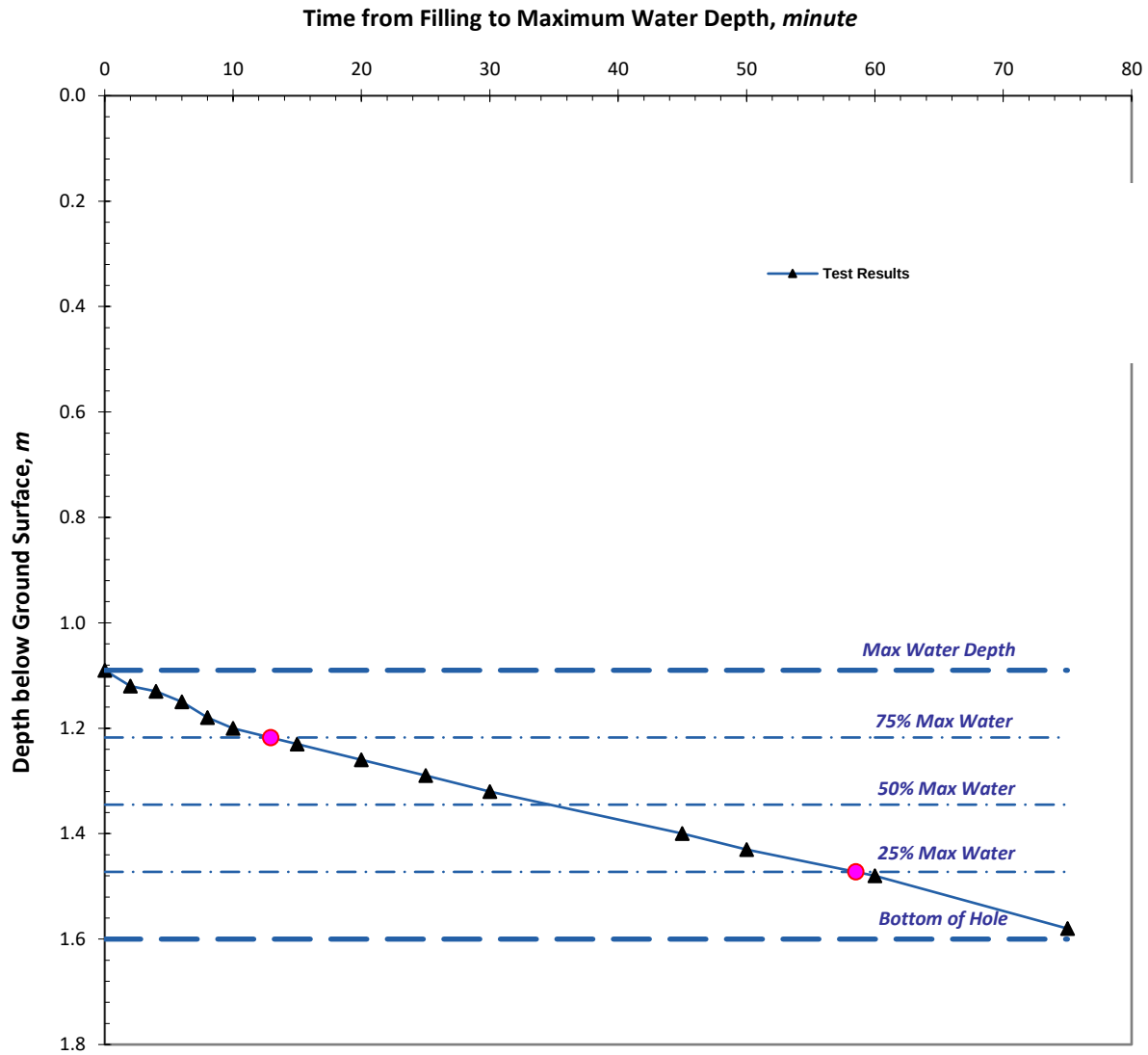
Pit was nearly emptied at finish of test.

Client:	Troy Homes	Job No:	ES0073	Test Date:	08/Jul/2024	
Site:	Ickleford	Tested By:	KL	Engineer:	CW	Fig. S1

BRE Digest DG365 Soakage Test

Test Hole No: TP201

Test No: Test No 2 (Repeated)



Pit Length, m	1.700	Depth to Water at Start of Test, m	1.090
Pit Width, m	0.500	Max Water Dropdown during Test, m	0.490
Depth to Pit Base, m	1.600	Total Soakage Test Time, min	75.0
Depth to Top of Permeable Soils, m	0.300	Mean Internal Discharge Area, m ²	1.972
Depth to Groundwater Surface, m		Discharge Rate, litre/min	4.755
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	2.41
Voids Assumed for Granular Fill, %	100%	BRE Soil Infiltration Rate, m/sec	4.02E-05

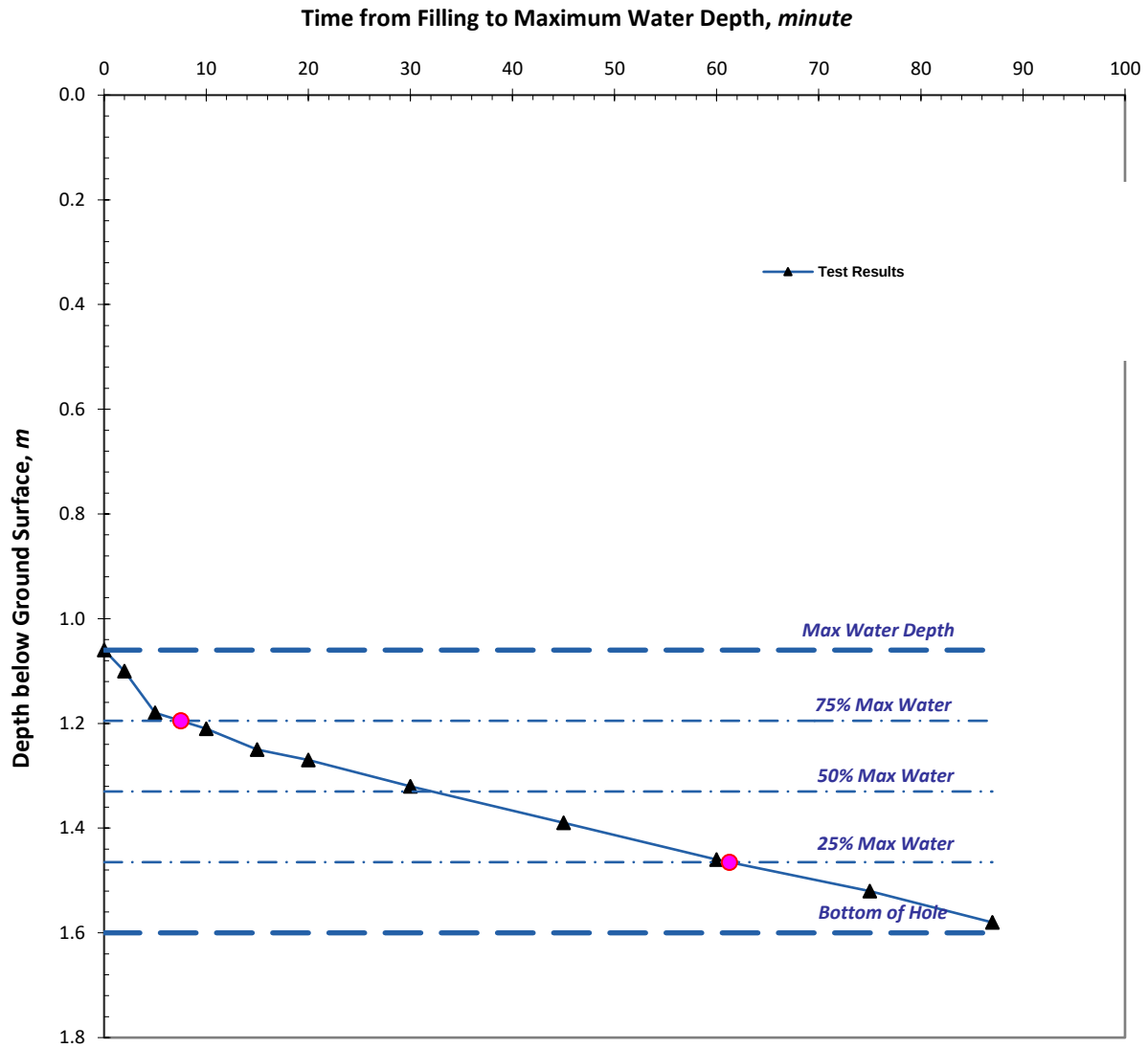
Comments: Dry pit
Pit was nearly emptied at finish of test.

Client:	Troy Homes	Job No:	ES0073	Test Date:	08/Jul/2024	
Site:	Ickleford	Tested By:	KL	Engineer:	CW	Fig. S2

BRE Digest DG365 Soakage Test

Test Hole No: TP201

Test No: Test No 3 (Repeated)



Pit Length, m	1.700	Depth to Water at Start of Test, m	1.060
Pit Width, m	0.500	Max Water Dropdown during Test, m	0.520
Depth to Pit Base, m	1.600	Total Soakage Test Time, min	87.0
Depth to Top of Permeable Soils, m	0.300	Mean Internal Discharge Area, m ²	2.038
Depth to Groundwater Surface, m		Discharge Rate, litre/min	4.270
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	2.10
Voids Assumed for Granular Fill, %	100%	BRE Soil Infiltration Rate, m/sec	3.49E-05

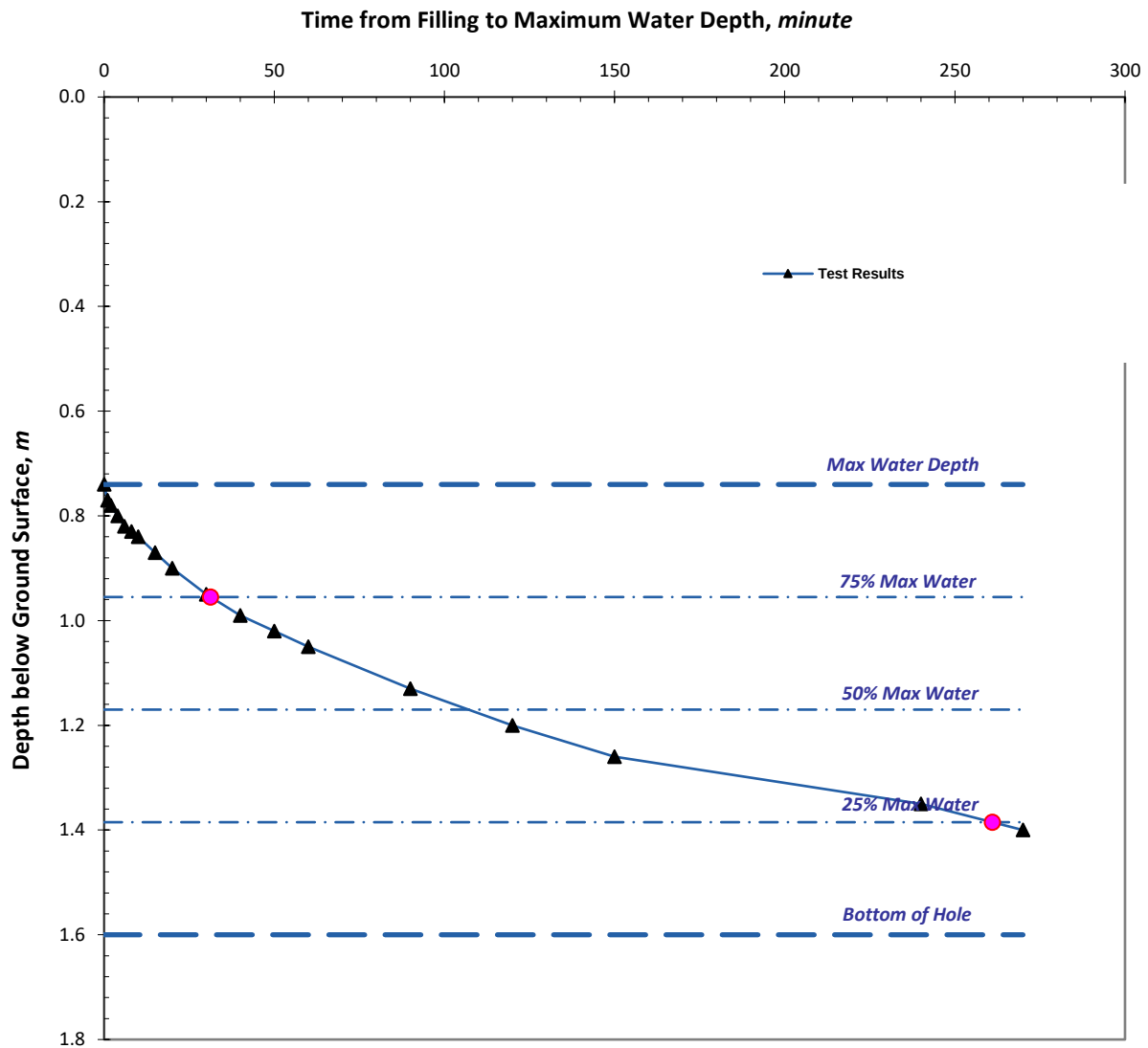
Comments: Dry pit
Pit was nearly emptied at finish of test.

Client:	Troy Homes	Job No:	ES0073	Test Date:	08/Jul/2024	
Site:	Ickleford	Tested By:	KL	Engineer:	CW	Fig. S3

BRE Digest DG365 Soakage Test

Test Hole No: TP202

Test No: Test No 1 (Initial)



Pit Length, m
Pit Width, m
Depth to Pit Base, m
Depth to Top of Permeable Soils, m
Depth to Groundwater Surface, m
Depth to Top of Granular Fill, m
Voids Assumed for Granular Fill, %

1.900
0.500
1.600
0.300
100%

Depth to Water at Start of Test, m
Max Water Dropdown during Test, m
Total Soakage Test Time, min
Mean Internal Discharge Area, m²
Discharge Rate, litre/min
Soakage Rate, litre/m²/min
BRE Soil Infiltration Rate, m/sec

0.740
0.660
270.0
3.014
1.778
0.590
9.83E-06

Comments:

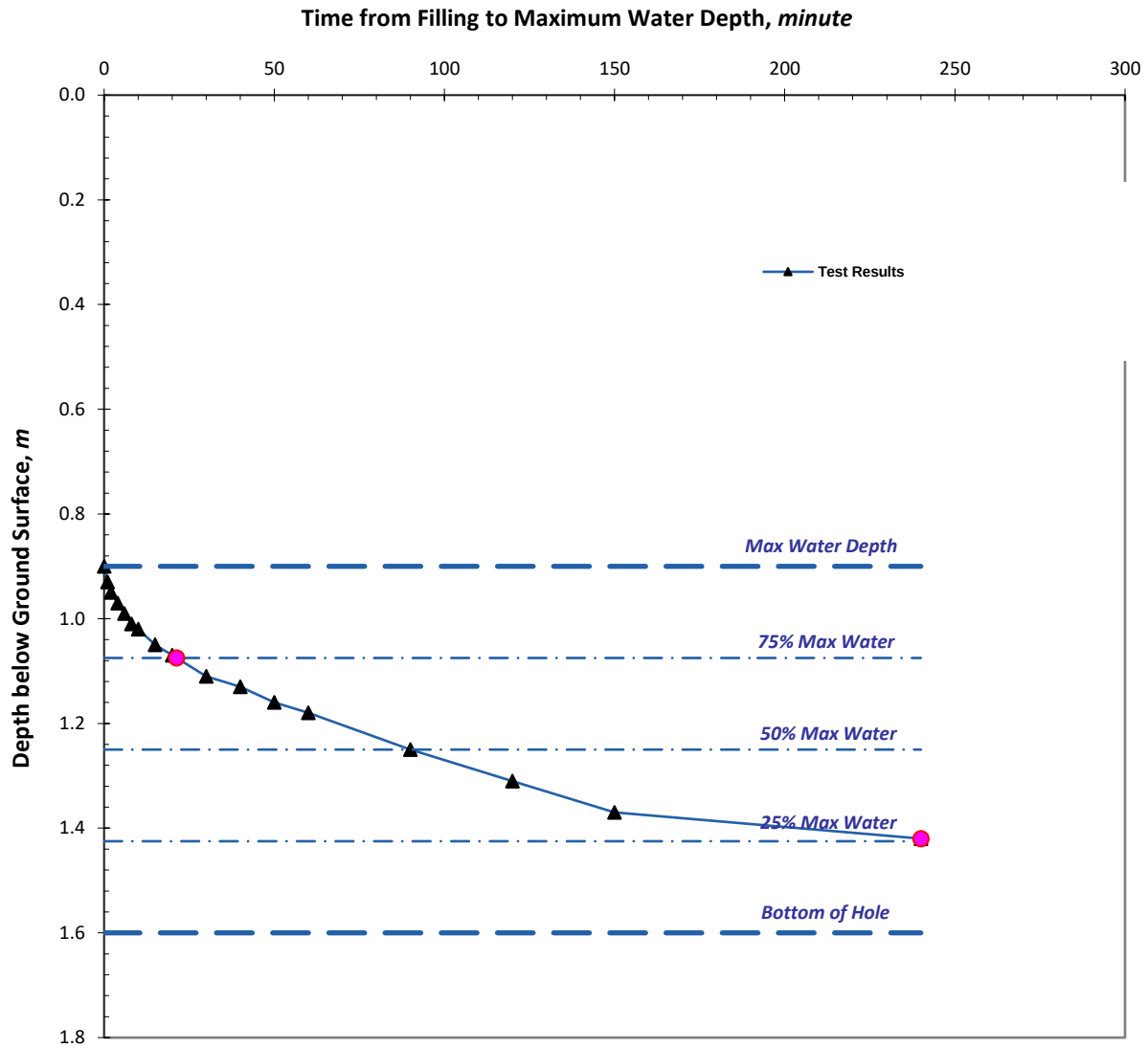
Pit was nearly emptied at finish of test.

Client:	Troy Homes	Job No:	ES0073	Test Date:	08/Jul/2024	
Site:	Ickleford	Tested By:	KL	Engineer:	CW	Fig. S4

BRE Digest DG365 Soakage Test

Test Hole No: TP202

Test No: Test No 2 (Repeated)



Pit Length, m	1.900	Depth to Water at Start of Test, m	0.900
Pit Width, m	0.500	Max Water Dropdown during Test, m	0.520
Depth to Pit Base, m	1.600	Total Soakage Test Time, min	240.0
Depth to Top of Permeable Soils, m	0.300	Mean Internal Discharge Area, m ²	2.642
Depth to Groundwater Surface, m		Discharge Rate, litre/min	1.498
Depth to Top of Granular Fill, m		Soakage Rate, litre/m ² /min	0.567
Voids Assumed for Granular Fill, %	100%	BRE Soil Infiltration Rate, m/sec	9.45E-06

Comments: Dry Pit

Water level fell to 50% -- 25% max water depth, calculations were based on actual fall of water level achieved.

Result not compliant with BRE365 requirement since water did not fall to 25% max water depth.

Client:	Troy Homes	Job No:	ES0073	Test Date:	08/Jul/2024	
Site:	Ickleford	Tested By:	KL	Engineer:	CW	Fig. S5

Dynamic Cone Penetrometer (DCP) Test Results

Test No:

TP101

Chainage:

Tested By:

DR

Start Layer:

GL

Checked By:

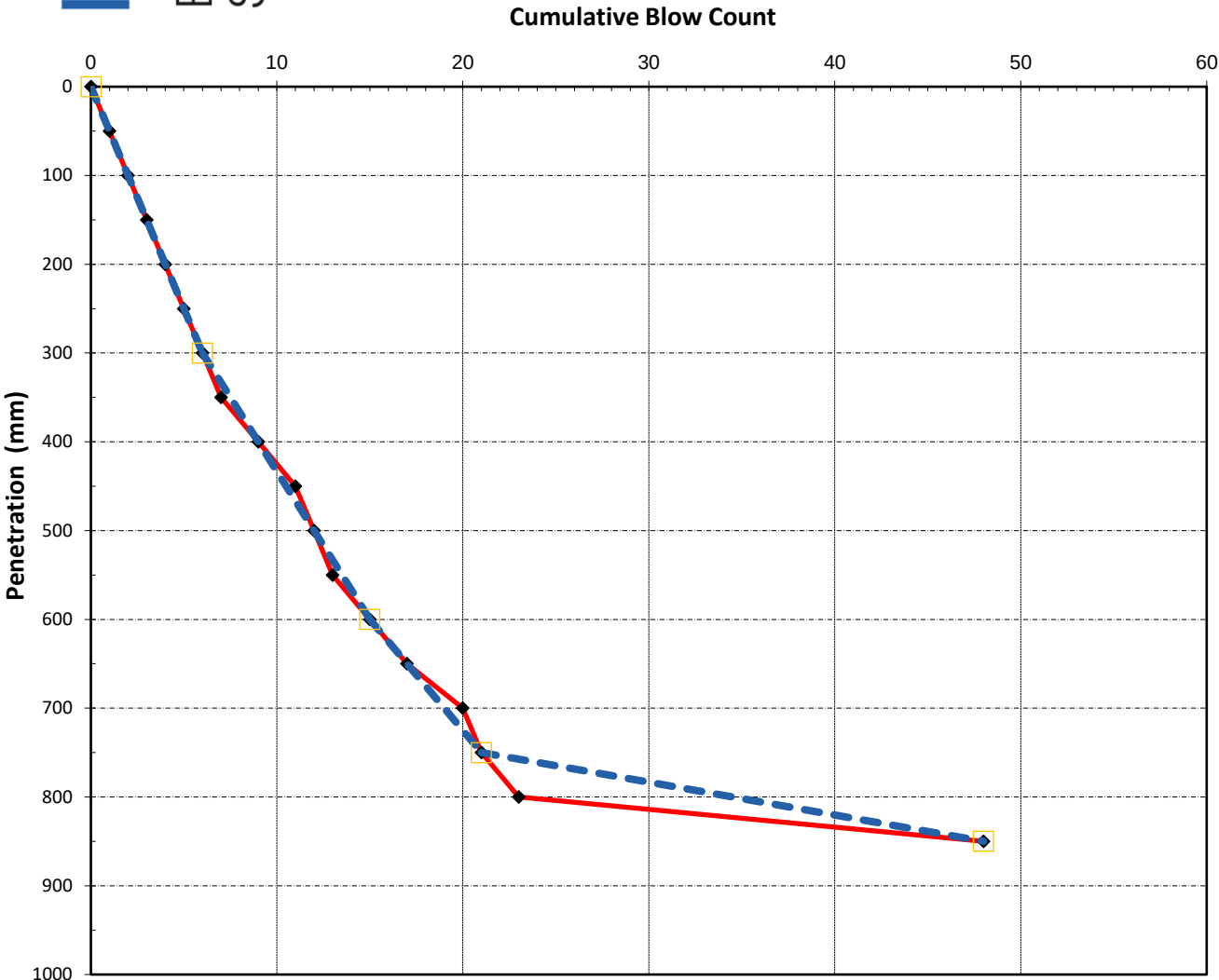
CW

Soil Condition:

DRY

Test Date:

10-May-24



Evaluated CBR Values from DCP Test Results

Layer No	From (mm)	To (mm)	Depth (mm)	Blow Count	No. of Blows	DCP mm/blow	CBR %	Soil Type	Remarks
1	0	300	300	6	6	50.0	2.9		
2	300	600	300	15	9	33.3	4.8		
3	600	750	150	21	6	25.0	7.0		
4	750	850	100	48	27	3.7	76		
Client:	Troy Homes					Job No:	ES0073		
Site:	Ickleford					Date:	10/05/2024	Fig.	CBR1

Dynamic Cone Penetrometer (DCP) Test Results

Test No:

TP102

Chainage:

Tested By:

DR

Start Layer:

GL

Checked By:

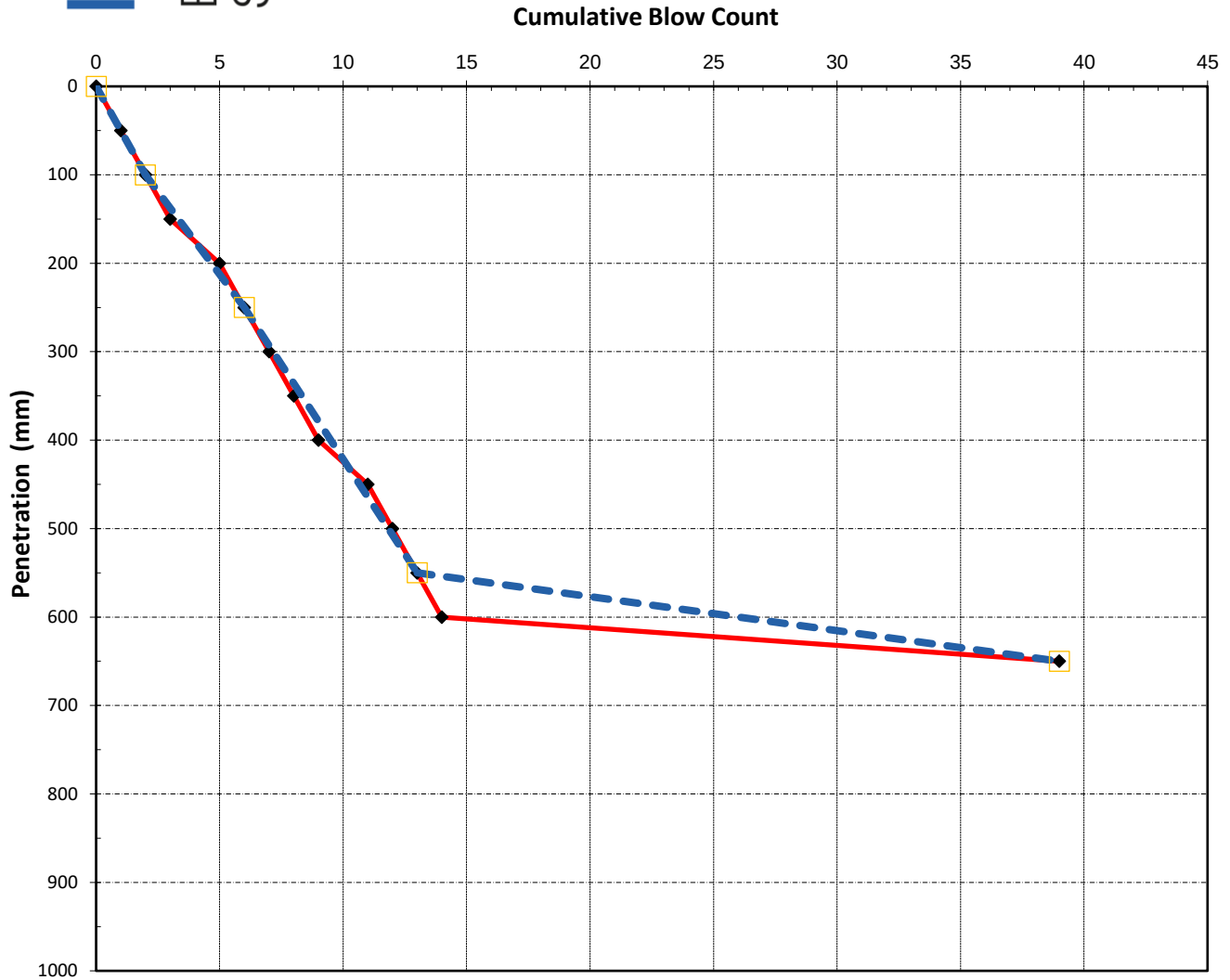
CW

Soil Condition:

DRY

Test Date:

10-May-24



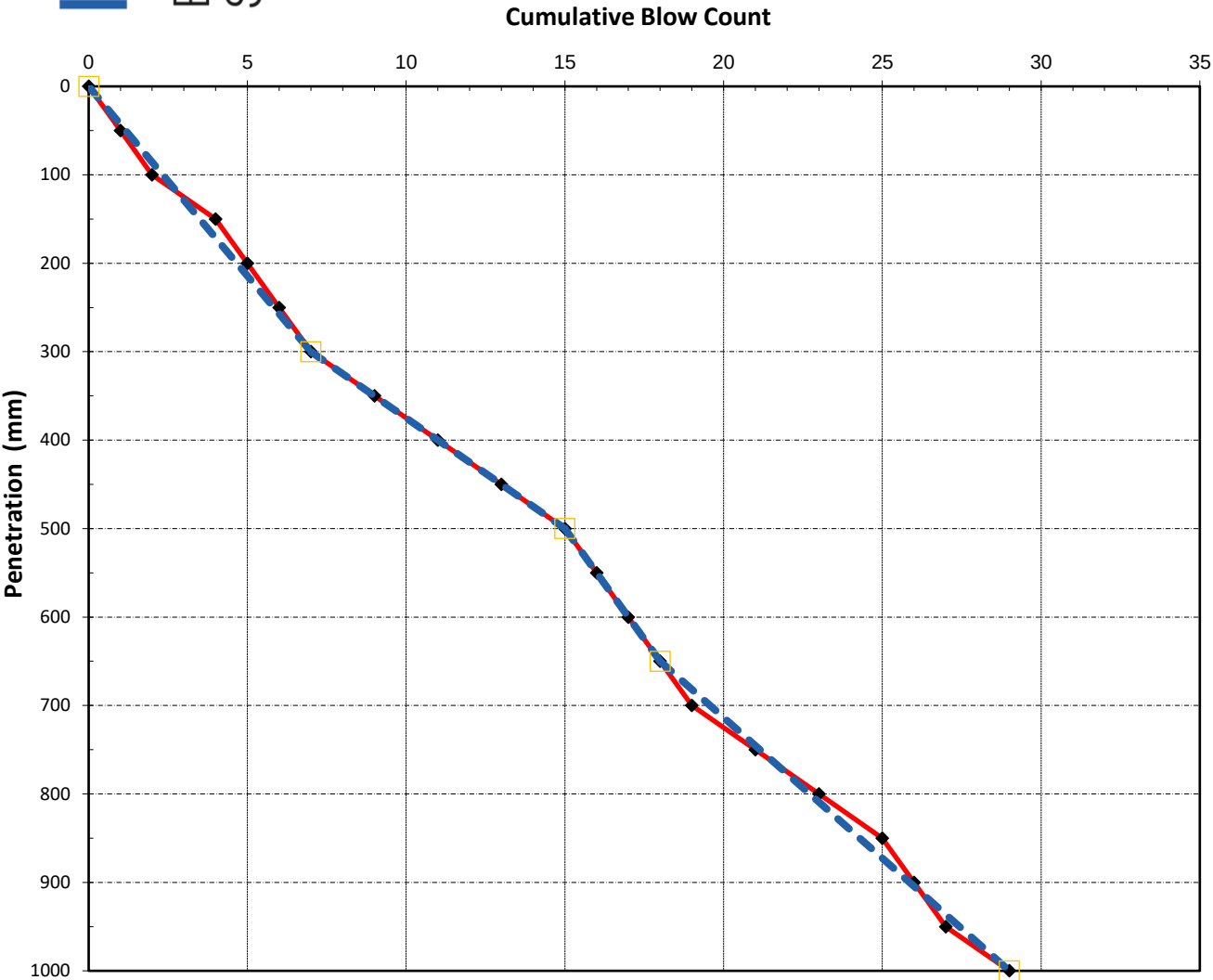
Evaluated CBR Values from DCP Test Results

Layer No	From (mm)	To (mm)	Depth (mm)	Blow Count	No. of Blows	DCP mm/blow	CBR %	Soil Type	Remarks
1	0	100	100	2	2	50.0	2.9		
2	100	250	150	6	4	37.5	4.1		
3	250	550	300	13	7	42.9	3.5		
4	550	650	100	39	26	3.8	73		
Client:	Troy Homes					Job No:	ES0073		
Site:	Ickleford					Date:	10/05/2024	Fig.	CBR2

Dynamic Cone Penetrometer (DCP) Test Results

Test No: TP103
Chainage:
Start Layer: GL
Soil Condition: DRY

Tested By: DR
Checked By: CW
Test Date: 10-May-24



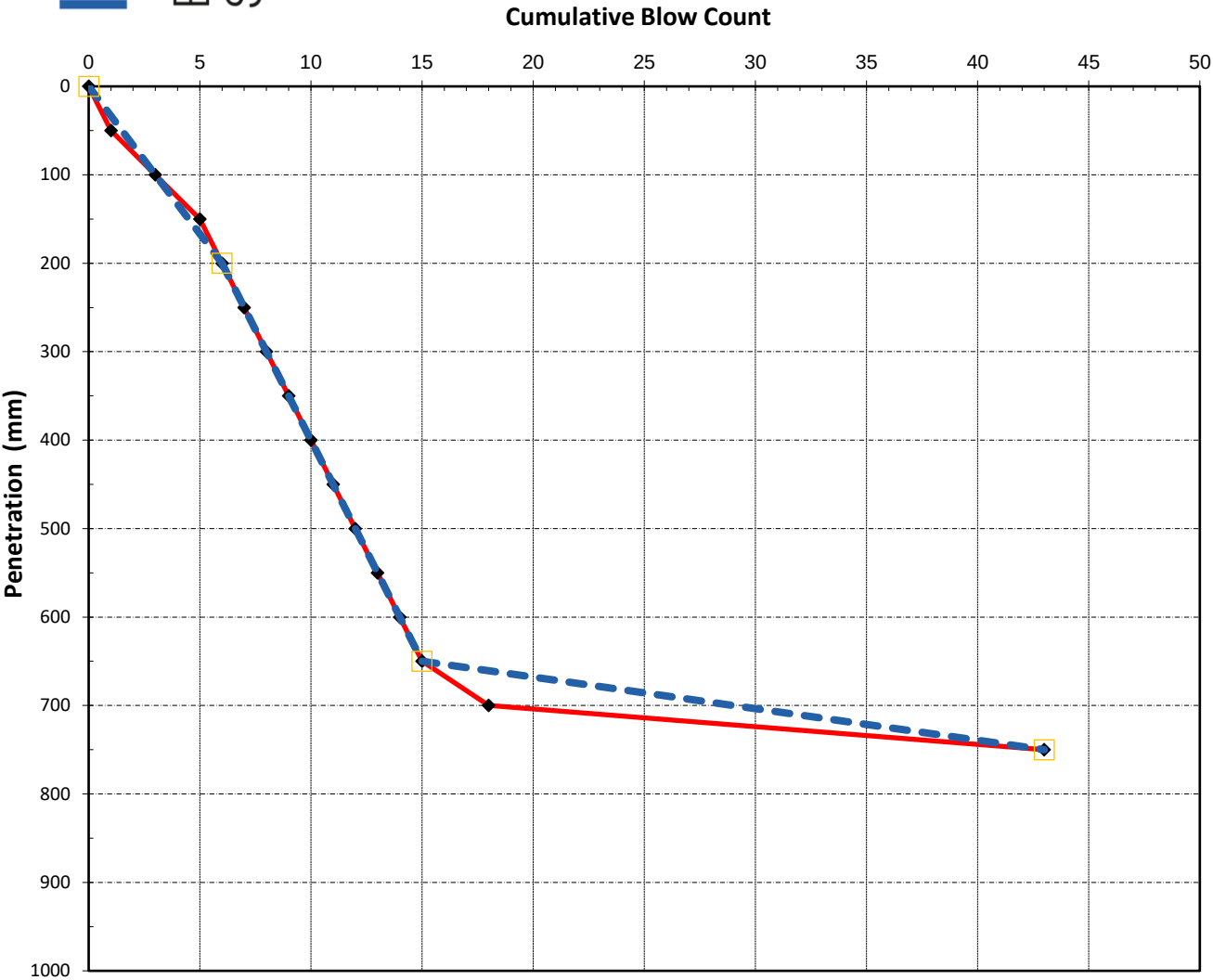
Evaluated CBR Values from DCP Test Results

Layer No	From (mm)	To (mm)	Depth (mm)	Blow Count	No. of Blows	DCP mm/blow	CBR %	Soil Type	Remarks
1	0	300	300	7	7	42.9	3.5		
2	300	500	200	15	8	25.0	7.0		
3	500	650	150	18	3	50.0	2.9		
4	650	1000	350	29	11	31.8	5.1		
Client:	Troy Homes					Job No:	ES0073		
Site:	Ickleford					Date:	10/05/2024	Fig.	CBR3

Dynamic Cone Penetrometer (DCP) Test Results

Test No: TP104
Chainage:
Start Layer: GL
Soil Condition: DRY

Tested By: DR
Checked By: CW
Test Date: 10-May-24



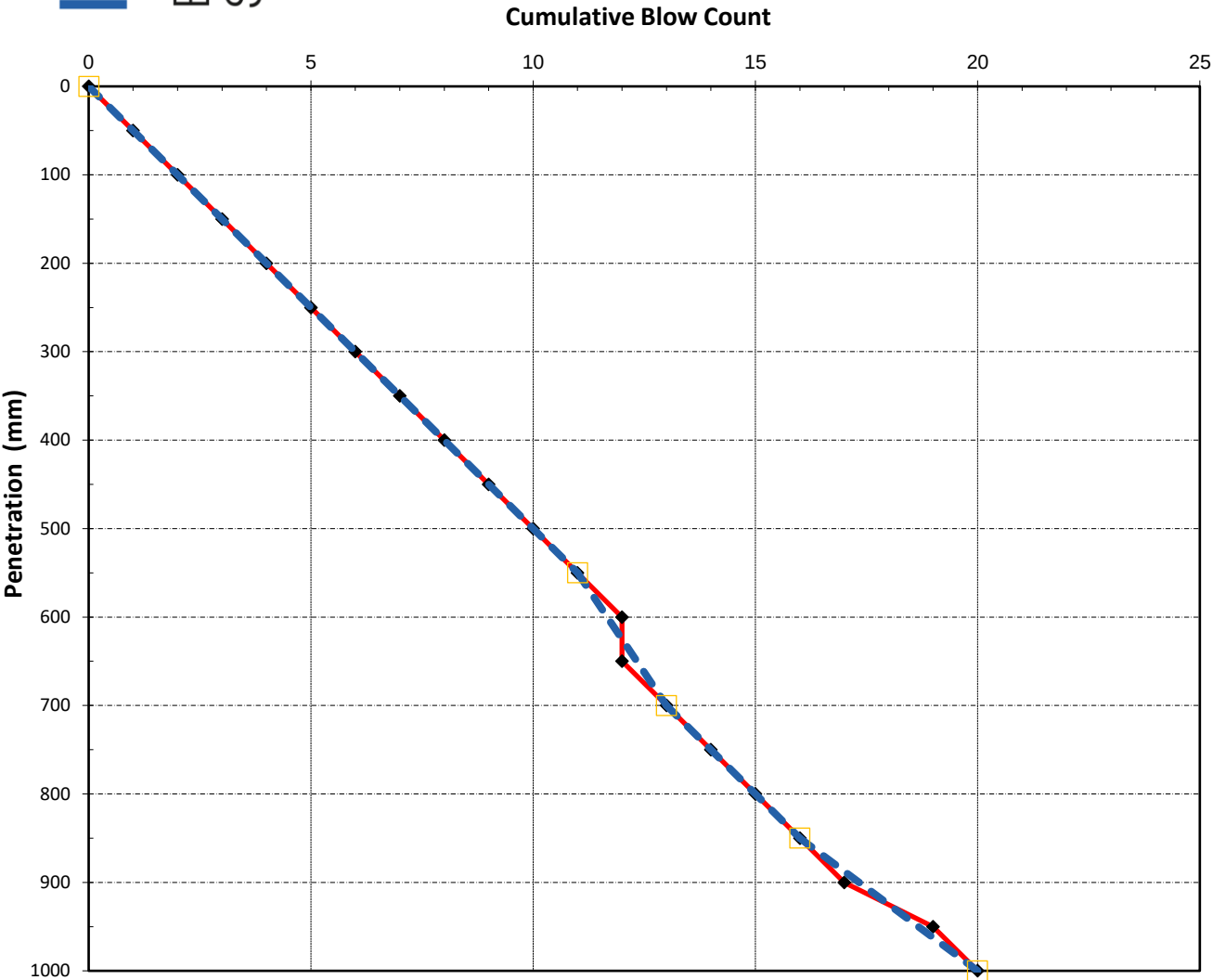
Evaluated CBR Values from DCP Test Results

Layer No	From (mm)	To (mm)	Depth (mm)	Blow Count	No. of Blows	DCP mm/blow	CBR %	Soil Type	Remarks
1	0	200	200	6	6	33.3	4.8		
2	200	650	450	15	9	50.0	2.9		
3	650	750	100	43	28	3.6	79		
Client:	Troy Homes					Job No:	ES0073		
Site:	Ickleford					Date:	10/05/2024	Fig.	CBR4

Dynamic Cone Penetrometer (DCP) Test Results

Test No: TP105
Chainage:
Start Layer: GL
Soil Condition: DRY

Tested By: DR
Checked By: CW
Test Date: 10-May-24



Evaluated CBR Values from DCP Test Results

Layer No	From (mm)	To (mm)	Depth (mm)	Blow Count	No. of Blows	DCP mm/blow	CBR %	Soil Type	Remarks
1	0	550	550	11	11	50.0	2.9		
2	550	700	150	13	2	75.0	1.7		
3	700	850	150	16	3	50.0	2.9		
4	850	1000	150	20	4	37.5	4.1		
Client:	Troy Homes					Job No:	ES0073		
Site:	Ickleford					Date:	10/05/2024	Fig.	CBR5

APPENDIX B

PHOTOGRAPHS



Photo 1 – TP101



Photo 2 – TP102



Photo 3 – TP103



Photo 4 – TP104



Photo 5 – TP105



Photo 6 – Gravelly SAND



Photo 7 – Stiff gravelly CLAY

APPENDIX C

CHEMICAL TEST RESULTS



Final Report

Report No.: 24-15532-1

Initial Date of Issue: 22-May-2024

Re-Issue Details:

Client CDS Group

Client Address: Building 51 Wrest Park
Silsoe
Bedfordshire
MK45 4HS

Contact(s): Callum Ward

Project Ickleford

Quotation No.: **Date Received:** 16-May-2024

Order No.: **Date Instructed:** 16-May-2024

No. of Samples: 8

Turnaround (Wkdays): 5 **Results Due:** 22-May-2024

Date Approved: 22-May-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: Ickleford

Client: CDS Group		Chemtest Job No.:		24-15532	24-15532	24-15532	24-15532	24-15532	24-15532	24-15532	24-15532
Quotation No.:		Chemtest Sample ID.:		1808575	1808576	1808577	1808578	1808579	1808580	1808581	
		Sample Location:		TP101	TP101	TP101	TP102	TP103	TP103	TP103	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
		Top Depth (m):		0.10	0.50	1.50	0.80	0.20	0.80	1.80	
		Date Sampled:		10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024	
		Asbestos Lab:		DURHAM			DURHAM				
Determinand	HWOL Code	Accred.	SOP	Units	LOD						
ACM Type		U	2192		N/A	-			-		
Asbestos Identification		U	2192		N/A	No Asbestos Detected			No Asbestos Detected		
Moisture		N	2030	%	0.020	12	16	7.9	0.058	17	14
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones and Roots	Stones	Stones	Stones	Stones	Stones
Soil Texture		N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand
pH at 20C		M	2010		4.0	8.1			8.3	8.1	
pH (2.5:1) at 20C		N	2010		4.0		8.4	8.7	8.4		8.2
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010		< 0.010	< 0.010	< 0.010		0.020
Total Sulphur		U	2175	%	0.010		0.043	0.015	0.021		0.026
Sulphate (Acid Soluble)		U	2430	%	0.010		0.050	0.031	0.038		0.034
Arsenic		M	2455	mg/kg	0.5	79			17	17	
Cadmium		M	2455	mg/kg	0.10	0.28			0.25	0.28	
Copper		M	2455	mg/kg	0.50	120			13	27	
Mercury		M	2455	mg/kg	0.05	0.06			0.05	0.19	
Nickel		M	2455	mg/kg	0.50	27			28	24	
Lead		M	2455	mg/kg	0.50	24			19	120	
Selenium		M	2455	mg/kg	0.25	1.1			0.89	0.91	
Zinc		M	2455	mg/kg	0.50	66			56	85	
Chromium (Trivalent)		N	2490	mg/kg	1.0	34			27	34	
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50			< 0.50	< 0.50	
LOI		M	2610	%	0.10	4.2			2.9	5.8	
TPH >C5-C6	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0			< 1.0		
TPH >C6-C7	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0			< 1.0		
TPH >C7-C8	EH_1D_Total	N	2670	mg/kg	1.0	< 1.0			< 1.0		
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	1.3			< 1.0		
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	7.1			< 1.0		
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	24			< 1.0		
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	19			< 1.0		
TPH >C21-C35	EH_1D_Total	N	2670	mg/kg	1.0	93			< 1.0		
Total TPH >C5-C35		N	2670	mg/kg	10	140			< 10		
Naphthalene		M	2700	mg/kg	0.10	< 0.10			< 0.10		
Acenaphthylene		M	2700	mg/kg	0.10	< 0.10			< 0.10		
Acenaphthene		M	2700	mg/kg	0.10	< 0.10			< 0.10		
Fluorene		M	2700	mg/kg	0.10	< 0.10			< 0.10		
Phenanthrene		M	2700	mg/kg	0.10	< 0.10			< 0.10		
Anthracene		M	2700	mg/kg	0.10	< 0.10			< 0.10		

Results - Soil

Project: Ickleford

Client: CDS Group		Chemtest Job No.:		24-15532	24-15532	24-15532	24-15532	24-15532	24-15532	24-15532
Quotation No.:		Chemtest Sample ID.:		1808575	1808576	1808577	1808578	1808579	1808580	1808581
		Sample Location:		TP101	TP101	TP101	TP102	TP103	TP103	TP103
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		0.10	0.50	1.50	0.80	0.20	0.80	1.80
		Date Sampled:		10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024	10-May-2024
		Asbestos Lab:		DURHAM			DURHAM			
Determinand	HWOL Code	Accred.	SOP	Units	LOD					
Fluoranthene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Pyrene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Benzo[a]anthracene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Chrysene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Benzo[a]pyrene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	< 0.10		< 0.10		
Total Of 16 PAH's		M	2700	mg/kg	2.0	< 2.0		< 2.0		
Benzene		M	2760	µg/kg	1.0	< 1.0		< 1.0		
Toluene		M	2760	µg/kg	1.0	< 1.0		< 1.0		
Ethylbenzene		M	2760	µg/kg	1.0	< 1.0		< 1.0		
m & p-Xylene		M	2760	µg/kg	1.0	< 1.0		< 1.0		
o-Xylene		M	2760	µg/kg	1.0	< 1.0		< 1.0		
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0	< 1.0		< 1.0		

Results - Soil

Project: Ickleford

Client: CDS Group		Chemtest Job No.:		24-15532		
Quotation No.:		Chemtest Sample ID.:		1808582		
		Sample Location:		TP104		
		Sample Type:		SOIL		
		Top Depth (m):		0.80		
		Date Sampled:		10-May-2024		
		Asbestos Lab:				
Determinand	HWOL Code	Accred.	SOP	Units	LOD	
ACM Type		U	2192		N/A	
Asbestos Identification		U	2192		N/A	
Moisture		N	2030	%	0.020	11
Soil Colour		N	2040		N/A	Brown
Other Material		N	2040		N/A	Stones
Soil Texture		N	2040		N/A	Sand
pH at 20C		M	2010		4.0	8.3
pH (2.5:1) at 20C		N	2010		4.0	8.6
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010
Total Sulphur		U	2175	%	0.010	0.020
Sulphate (Acid Soluble)		U	2430	%	0.010	0.025
Arsenic		M	2455	mg/kg	0.5	20
Cadmium		M	2455	mg/kg	0.10	0.27
Copper		M	2455	mg/kg	0.50	15
Mercury		M	2455	mg/kg	0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	29
Lead		M	2455	mg/kg	0.50	19
Selenium		M	2455	mg/kg	0.25	0.80
Zinc		M	2455	mg/kg	0.50	56
Chromium (Trivalent)		N	2490	mg/kg	1.0	33
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50
LOI		M	2610	%	0.10	2.5
TPH >C5-C6	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C6-C7	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C7-C8	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C8-C10	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C10-C12	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C12-C16	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C16-C21	EH_1D_Total	N	2670	mg/kg	1.0	
TPH >C21-C35	EH_1D_Total	N	2670	mg/kg	1.0	
Total TPH >C5-C35		N	2670	mg/kg	10	
Naphthalene		M	2700	mg/kg	0.10	
Acenaphthylene		M	2700	mg/kg	0.10	
Acenaphthene		M	2700	mg/kg	0.10	
Fluorene		M	2700	mg/kg	0.10	
Phenanthrene		M	2700	mg/kg	0.10	
Anthracene		M	2700	mg/kg	0.10	

Results - Soil

Project: Ickleford

Client: CDS Group		Chemtest Job No.:		24-15532	
Quotation No.:		Chemtest Sample ID.:		1808582	
		Sample Location:		TP104	
		Sample Type:		SOIL	
		Top Depth (m):		0.80	
		Date Sampled:		10-May-2024	
		Asbestos Lab:			
Determinand	HWOL Code	Accred.	SOP	Units	LOD
Fluoranthene		M	2700	mg/kg	0.10
Pyrene		M	2700	mg/kg	0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10
Chrysene		M	2700	mg/kg	0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10
Total Of 16 PAH's		M	2700	mg/kg	2.0
Benzene		M	2760	µg/kg	1.0
Toluene		M	2760	µg/kg	1.0
Ethylbenzene		M	2760	µg/kg	1.0
m & p-Xylene		M	2760	µg/kg	1.0
o-Xylene		M	2760	µg/kg	1.0
Methyl Tert-Butyl Ether		M	2760	µg/kg	1.0

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.	
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 24-15535-1

Initial Date of Issue: 24-May-2024

Re-Issue Details:

Client CDS Group

Client Address: Building 51 Wrest Park
Silsoe
Bedfordshire
MK45 4HS

Contact(s): Callum Ward

Project Ickleford

Quotation No.: **Date Received:** 16-May-2024

Order No.: **Date Instructed:** 16-May-2024

No. of Samples: 2

Turnaround (Wkdays): 7 **Results Due:** 24-May-2024

Date Approved: 24-May-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - 2 Stage WAC

Project: Ickleford

Chemtest Job No: 24-15535							Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1808588							Limits		
Sample Ref:							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:									
Sample Location: TP101									
Top Depth(m): 0.10									
Bottom Depth(m):									
Sampling Date: 10-May-2024									
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	M	%	1.5			3	5	6
Loss On Ignition	2610	M	%	4.7			--	--	10
Total BTEX	2760	M	mg/kg	< 0.010			6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10			1	--	--
TPH Total WAC	2670	M	mg/kg	< 10			500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0			100	--	--
pH at 20C	2010	M		8.0			--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0080			--	To evaluate	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0029	0.0013	0.0058	0.014	0.5	2	25
Barium	1455	U	0.006	< 0.005	0.012	0.0047	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0033	0.0012	0.0065	0.0025	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0012	< 0.0002	0.0024	0.0010	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	0.0006	< 0.0005	0.0011	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.005	0.003	0.011	0.032	4	50	200
Chloride	1220	U	< 1.0	< 1.0	< 10	< 10	800	15000	25000
Fluoride	1220	U	0.49	0.11	< 1.0	1.4	10	150	500
Sulphate	1220	U	< 1.0	< 1.0	< 10	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	37	11	72	130	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	7.3	3.6	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	13

Leachate Test Information	
Leachant volume 1st extract/l	0.324
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.137

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: Ickleford

Chemtest Job No: 24-15535							Landfill Waste Acceptance Criteria		
Chemtest Sample ID: 1808589							Limits		
Sample Ref:							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:									
Sample Location: TP102									
Top Depth(m): 0.80									
Bottom Depth(m):									
Sampling Date: 10-May-2024									
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	M	%	0.98			3	5	6
Loss On Ignition	2610	M	%	3.4			--	--	10
Total BTEX	2760	M	mg/kg	< 0.010			6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg	< 0.10			1	--	--
TPH Total WAC	2670	M	mg/kg	< 10			500	--	--
Total (Of 17) PAH's	2700	N	mg/kg	< 2.0			100	--	--
pH at 20C	2010	M		8.2			--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0060			--	To evaluate	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0007	0.0005	0.0014	0.0050	0.5	2	25
Barium	1455	U	0.008	< 0.005	0.016	0.0056	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0025	0.0008	0.0050	0.0018	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.003	0.004	0.007	0.035	4	50	200
Chloride	1220	U	< 1.0	< 1.0	< 10	< 10	800	15000	25000
Fluoride	1220	U	0.43	0.094	< 1.0	1.2	10	150	500
Sulphate	1220	U	< 1.0	< 1.0	< 10	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	77	32	150	350	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	7.7	3.8	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	12

Leachate Test Information	
Leachant volume 1st extract/l	0.327
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.125

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity at 25°C and Total Dissolved Solids (TDS) in Waters	Conductivity Meter	
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.	
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).	
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation	
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.	
2010	pH Value of Soils	pH at 20°C	pH Meter	
2015	Acid Neutralisation Capacity	Acid Reserve	Titration	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.	
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS. Reported PCB 101 results may contain contributions from PCB 90 due to inseparable chromatography.	
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge	
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

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)



UGQKZ-TTWZ2-QLXL9

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

Job name

ES0073 Ickleford

Description/Comments

Project

Site

Classified by

Name: **Callum Ward**
Date: **24 May 2024 14:29 GMT**
Telephone: **01525 864387**
Company: **The CDS Group**
Building 51, Wrest Park
Silsoe
MK45 4HS

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
Most recent 3 year Refresher

Date

07 Jun 2018
04 Jun 2024 *

Next 3 year Refresher due by Oct 2024
* training course booked

Purpose of classification

7 - Disposal of Waste

Address of the waste

Lodge Court, Ickleford

Post Code N/a

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

Description of industry/producer giving rise to the waste

Construction of residential properties

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

Waste created from foundation excavations.

Description of the waste

Topsoil and natural soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101	0.10	Non Hazardous		3
2	TP102	0.80	Non Hazardous		5
3	TP103	0.20	Non Hazardous		7
4	TP104	0.80	Non Hazardous		9
5	WS1	0.2	Non Hazardous		11
6	WS1[2]	0.7	Non Hazardous		13
7	WS3	0.2	Non Hazardous		15
8	WS4	0.2	Non Hazardous		17
9	SA1	0.5	Non Hazardous		19

Related documents

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

Report

Created by: Callum Ward

Created date: 24 May 2024 14:29 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	21
Appendix B: Rationale for selection of metal species	22
Appendix C: Version	23

Classification of sample: TP101


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

Sample details

Sample name:	LoW Code:	
TP101	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)
0.10 m		
Moisture content:		
12%		
(dry weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 12% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	79 mg/kg		70.536 mg/kg		0.00705 %	✓	
	033-002-00-5										
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.28 mg/kg		0.25 mg/kg		0.000025 %	✓	
	048-001-00-5										
3	copper { copper sulphate }				120 mg/kg	2.512	269.111 mg/kg		0.0269 %	✓	
	029-004-00-0	231-847-6	7758-98-7								
4	mercury { mercury }				0.06 mg/kg		0.0536 mg/kg		0.00000536 %	✓	
	080-001-00-0	231-106-7	7439-97-6								
5	nickel { nickel }			7	27 mg/kg		24.107 mg/kg		0.00241 %	✓	
	028-002-00-7	231-111-4	7440-02-0								
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	24 mg/kg		21.429 mg/kg		0.00214 %	✓	
	082-001-00-6										
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.1 mg/kg	1.405	1.38 mg/kg		0.000138 %	✓	
	034-002-00-8										
8	zinc { zinc oxide }				66 mg/kg	1.245	73.349 mg/kg		0.00733 %	✓	
	030-013-00-7	215-222-5	1314-13-2								
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				34 mg/kg	1.462	44.369 mg/kg		0.00444 %	✓	
		215-160-9	1308-38-9								
10	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg		<0.000113 %		<LOD
	024-017-00-8										
11	pH				8.1 pH		8.1 pH		8.1 pH		
12	naphthalene				<0.1 mg/kg		<0.1 mg/kg		<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
13	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg		<0.00001 %		<LOD
		205-917-1	208-96-8								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[bk]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	TPH (C6 to C40) petroleum group		TPH		140 mg/kg		125 mg/kg	0.0125 %	✓	
29	benzene	601-020-00-8	200-753-7		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
30	toluene	601-021-00-3	203-625-9		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
31	ethylbenzene	601-023-00-4	202-849-4		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
32	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
Total:								0.0636 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No liquid phase

Hazard Statements hit:

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

Because of determinand:

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

Classification of sample: TP102

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

Sample details

Sample name:	LoW Code:
TP102	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.80 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.058% (dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 0.058% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	17	mg/kg		16.99	mg/kg	0.0017 %	✓	
	033-002-00-5											
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.25	mg/kg		0.25	mg/kg	0.000025 %	✓	
	048-001-00-5											
3	copper { copper sulphate }				13	mg/kg	2.512	32.633	mg/kg	0.00326 %	✓	
	029-004-00-0	231-847-6	7758-98-7									
4	mercury { mercury }				0.05	mg/kg		0.05	mg/kg	0.000005 %	✓	
	080-001-00-0	231-106-7	7439-97-6									
5	nickel { nickel }			7	28	mg/kg		27.984	mg/kg	0.0028 %	✓	
	028-002-00-7	231-111-4	7440-02-0									
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	19	mg/kg		18.989	mg/kg	0.0019 %	✓	
	082-001-00-6											
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.89	mg/kg	1.405	1.25	mg/kg	0.000125 %	✓	
	034-002-00-8											
8	zinc { zinc oxide }				56	mg/kg	1.245	69.664	mg/kg	0.00697 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	39.439	mg/kg	0.00394 %	✓	
		215-160-9	1308-38-9									
10	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
	024-017-00-8											
11	pH				8.3	pH		8.3	pH	8.3 pH		
12	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
13	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	benzo[a]anthracene	601-033-00-9	200-280-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	chrysene	601-048-00-0	205-923-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[bk]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
29	benzene	601-020-00-8	200-753-7		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
30	toluene	601-021-00-3	203-625-9		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
31	ethylbenzene	601-023-00-4	202-849-4		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
32	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
Total:								0.0224 %		

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: TP103


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

Sample details

Sample name:	LoW Code:
TP103	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
17%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	17 mg/kg		14.53 mg/kg	0.00145 %	✓	
	033-002-00-5									
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.28 mg/kg		0.239 mg/kg	0.0000239 %	✓	
	048-001-00-5									
3	copper { copper sulphate }				27 mg/kg	2.512	57.962 mg/kg	0.0058 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
4	mercury { mercury }				0.19 mg/kg		0.162 mg/kg	0.0000162 %	✓	
	080-001-00-0	231-106-7	7439-97-6							
5	nickel { nickel }			7	24 mg/kg		20.513 mg/kg	0.00205 %	✓	
	028-002-00-7	231-111-4	7440-02-0							
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	120 mg/kg		102.564 mg/kg	0.0103 %	✓	
	082-001-00-6									
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.91 mg/kg	1.405	1.093 mg/kg	0.000109 %	✓	
	034-002-00-8									
8	zinc { zinc oxide }				85 mg/kg	1.245	90.428 mg/kg	0.00904 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				34 mg/kg	1.462	42.473 mg/kg	0.00425 %	✓	
		215-160-9	1308-38-9							
10	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
	024-017-00-8									
11	pH				8.1 pH		8.1 pH	8.1 pH		
			PH							
Total:								0.0331 %		

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

Classification of sample: TP104


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

Sample details

Sample name:	LoW Code:	
TP104	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)
0.80 m		
Moisture content:		
11%		
(dry weight correction)		

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex } 033-002-00-5			1	20 mg/kg		18.018 mg/kg	0.0018 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex } 048-001-00-5			1	0.27 mg/kg		0.243 mg/kg	0.0000243 %	✓	
3	copper { copper sulphate } 029-004-00-0	231-847-6	7758-98-7		15 mg/kg	2.512	33.942 mg/kg	0.00339 %	✓	
4	mercury { mercury } 080-001-00-0	231-106-7	7439-97-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
5	nickel { nickel } 028-002-00-7	231-111-4	7440-02-0	7	29 mg/kg		26.126 mg/kg	0.00261 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } 082-001-00-6			1	19 mg/kg		17.117 mg/kg	0.00171 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex } 034-002-00-8				0.8 mg/kg	1.405	1.013 mg/kg	0.000101 %	✓	
8	zinc { zinc oxide } 030-013-00-7	215-222-5	1314-13-2		56 mg/kg	1.245	62.796 mg/kg	0.00628 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) } 215-160-9		1308-38-9		33 mg/kg	1.462	43.452 mg/kg	0.00435 %	✓	
10	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex } 024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
11	pH PH		PH		8.3 pH		8.3 pH	8.3 pH		
Total:								0.0204 %		

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

Classification of sample: WS1


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

Sample details

Sample name:	LoW Code:	
WS1	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		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }	033-002-00-5		1	3.6 mg/kg		3.6 mg/kg	0.00036 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5		1	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
3	copper { copper sulphate }	029-004-00-0	231-847-6	7758-98-7	8.4 mg/kg	2.512	21.098 mg/kg	0.00211 %	✓	
4	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
5	nickel { nickel }	028-002-00-7	231-111-4	7440-02-0	6.5 mg/kg		6.5 mg/kg	0.00065 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	3.4 mg/kg		3.4 mg/kg	0.00034 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.2 mg/kg	1.405	<0.281 mg/kg	<0.0000281 %		<LOD
8	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	13 mg/kg	1.245	16.181 mg/kg	0.00162 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		8.5 mg/kg	1.462	12.423 mg/kg	0.00124 %	✓	
10	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
11	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
12	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	phenanthrene	201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluoranthene	205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	pyrene	204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	benzo[b]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
Total:								0.00753 %		

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: WS1[2]

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

Sample details

Sample name:	LoW Code:
WS1[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.7 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }	033-002-00-5		1	12 mg/kg		12 mg/kg	0.0012 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5		1	0.25 mg/kg		0.25 mg/kg	0.000025 %	✓	
3	copper { copper sulphate }	029-004-00-0	231-847-6		19 mg/kg	2.512	47.722 mg/kg	0.00477 %	✓	
4	mercury { mercury }	080-001-00-0	231-106-7		0.3 mg/kg		0.3 mg/kg	0.00003 %	✓	
5	nickel { nickel }	028-002-00-7	231-111-4		20 mg/kg		20 mg/kg	0.002 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	54 mg/kg		54 mg/kg	0.0054 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			0.22 mg/kg	1.405	0.309 mg/kg	0.0000309 %	✓	
8	zinc { zinc oxide }	030-013-00-7	215-222-5		67 mg/kg	1.245	83.396 mg/kg	0.00834 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23 mg/kg	1.462	33.616 mg/kg	0.00336 %	✓	
10	naphthalene	601-052-00-2	202-049-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
11	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
12	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	phenanthrene	201-581-5	85-01-8		0.1 mg/kg		0.1 mg/kg	0.00001 %	✓	
15	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
16	fluoranthene	205-912-4	206-44-0		0.13 mg/kg		0.13	mg/kg	0.000013 %	✓	
17	pyrene	204-927-3	129-00-0		0.14 mg/kg		0.14	mg/kg	0.000014 %	✓	
18	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
19	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
20	benzo[b]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
Total:									0.0253 %		

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: WS3

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

Sample details

Sample name:	LoW Code:	
WS3	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		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }	033-002-00-5		1	14 mg/kg		14 mg/kg	0.0014 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5		1	0.26 mg/kg		0.26 mg/kg	0.000026 %	✓	
3	copper { copper sulphate }	029-004-00-0	231-847-6		24 mg/kg	2.512	60.281 mg/kg	0.00603 %	✓	
4	mercury { mercury }	080-001-00-0	231-106-7		0.15 mg/kg		0.15 mg/kg	0.000015 %	✓	
5	nickel { nickel }	028-002-00-7	231-111-4		20 mg/kg		20 mg/kg	0.002 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	140 mg/kg		140 mg/kg	0.014 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			0.33 mg/kg	1.405	0.464 mg/kg	0.0000464 %	✓	
8	zinc { zinc oxide }	030-013-00-7	215-222-5		72 mg/kg	1.245	89.619 mg/kg	0.00896 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		25 mg/kg	1.462	36.539 mg/kg	0.00365 %	✓	
10	naphthalene	601-052-00-2	202-049-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
11	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
12	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	phenanthrene	201-581-5	85-01-8		0.18 mg/kg		0.18 mg/kg	0.000018 %	✓	
15	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16	fluoranthene		205-912-4	206-44-0		0.24 mg/kg		0.24 mg/kg	0.000024 %	✓	
17	pyrene		204-927-3	129-00-0		0.24 mg/kg		0.24 mg/kg	0.000024 %	✓	
18	benzo[a]anthracene					0.13 mg/kg		0.13 mg/kg	0.000013 %	✓	
		601-033-00-9	200-280-6	56-55-3							
19	chrysene					0.14 mg/kg		0.14 mg/kg	0.000014 %	✓	
		601-048-00-0	205-923-4	218-01-9							
20	benzo[b]fluoranthene					0.18 mg/kg		0.18 mg/kg	0.000018 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
21	benzo[k]fluoranthene					0.12 mg/kg		0.12 mg/kg	0.000012 %	✓	
		601-036-00-5	205-916-6	207-08-9							
22	benzo[a]pyrene; benzo[def]chrysene					<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8							
23	dibenz[a,h]anthracene					<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
24	benzo[ghi]perylene					<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2								
25	indeno[123-cd]pyrene					<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5								
26	TPH (C6 to C40) petroleum group					<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH								
Total:									0.0373 %		

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: WS4


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

Sample details

Sample name:	LoW Code:	
WS4	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		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }	033-002-00-5		1	15 mg/kg		15 mg/kg	0.0015 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5		1	0.24 mg/kg		0.24 mg/kg	0.000024 %	✓	
3	copper { copper sulphate }	029-004-00-0	231-847-6		20 mg/kg	2.512	50.234 mg/kg	0.00502 %	✓	
4	mercury { mercury }	080-001-00-0	231-106-7		0.13 mg/kg		0.13 mg/kg	0.000013 %	✓	
5	nickel { nickel }	028-002-00-7	231-111-4		23 mg/kg		23 mg/kg	0.0023 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	97 mg/kg		97 mg/kg	0.0097 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			0.26 mg/kg	1.405	0.365 mg/kg	0.0000365 %	✓	
8	zinc { zinc oxide }	030-013-00-7	215-222-5		99 mg/kg	1.245	123.227 mg/kg	0.0123 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		24 mg/kg	1.462	35.077 mg/kg	0.00351 %	✓	
10	naphthalene	601-052-00-2	202-049-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
11	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
12	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	phenanthrene	201-581-5	85-01-8		0.16 mg/kg		0.16 mg/kg	0.000016 %	✓	
15	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
16	fluoranthene		205-912-4	206-44-0		0.28 mg/kg		0.28 mg/kg	0.000028 %	✓	
17	pyrene		204-927-3	129-00-0		0.25 mg/kg		0.25 mg/kg	0.000025 %	✓	
18	benzo[a]anthracene		601-033-00-9	200-280-6	56-55-3	0.12 mg/kg		0.12 mg/kg	0.000012 %	✓	
19	chrysene		601-048-00-0	205-923-4	218-01-9	0.11 mg/kg		0.11 mg/kg	0.000011 %	✓	
20	benzo[b]fluoranthene		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	benzo[k]fluoranthene		601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]pyrene; benzo[def]chrysene		601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	dibenz[a,h]anthracene		601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[ghi]perylene			205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene			205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	TPH (C6 to C40) petroleum group				TPH	<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
Total:									0.0356 %		

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: SA1

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

Sample details

Sample name:	LoW Code:	
SA1	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)
0.5 m		

Hazard properties

None identified

Determinands

Moisture content: 0% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }	033-002-00-5		1	14 mg/kg		14 mg/kg	0.0014 %	✓	
2	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }	048-001-00-5		1	0.11 mg/kg		0.11 mg/kg	0.000011 %	✓	
3	copper { copper sulphate }	029-004-00-0	231-847-6		11 mg/kg	2.512	27.629 mg/kg	0.00276 %	✓	
4	mercury { mercury }	080-001-00-0	231-106-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
5	nickel { nickel }	028-002-00-7	231-111-4		17 mg/kg		17 mg/kg	0.0017 %	✓	
6	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6		1	30 mg/kg		30 mg/kg	0.003 %	✓	
7	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			0.22 mg/kg	1.405	0.309 mg/kg	0.0000309 %	✓	
8	zinc { zinc oxide }	030-013-00-7	215-222-5		41 mg/kg	1.245	51.033 mg/kg	0.0051 %	✓	
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		19 mg/kg	1.462	27.77 mg/kg	0.00278 %	✓	
10	naphthalene	601-052-00-2	202-049-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
11	acenaphthylene	205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
12	acenaphthene	201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	fluorene	201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	phenanthrene	201-581-5	85-01-8		0.14 mg/kg		0.14 mg/kg	0.000014 %	✓	
15	anthracene	204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluoranthene	205-912-4	206-44-0		0.32 mg/kg		0.32 mg/kg	0.000032 %	✓	
17	pyrene	204-927-3	129-00-0		0.27 mg/kg		0.27 mg/kg	0.000027 %	✓	
18	benzo[a]anthracene	601-033-00-9	200-280-6		0.14 mg/kg		0.14 mg/kg	0.000014 %	✓	
19	chrysene	601-048-00-0	205-923-4		0.17 mg/kg		0.17 mg/kg	0.000017 %	✓	
20	benzo[b]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		0.13 mg/kg		0.13 mg/kg	0.000013 %	✓	
21	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.1 mg/kg		0.1 mg/kg	0.00001 %	✓	
22	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.22 mg/kg		0.22 mg/kg	0.000022 %	✓	
23	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[ghi]perylene	205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.017 %		

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 GB MCL determinands

• arsenic compounds, with the exception of those specified elsewhere in this Annex

GB MCL index number: 033-002-00-5

Description/Comments: Worst Case: IARC considers arsenic compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

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

GB MCL index number: 048-001-00-5

Description/Comments: Worst Case: IARC considers cadmium compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

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

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

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

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

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

■ **benzo[bk]fluoranthene** (EC Number: [1] 205-911-9 [2] 205-916-6, CAS Number: [1] 205-99-2 [2] 207-08-9)

Description/Comments: Combined data from harmonised entries in CLP for benzo[b] and benzo[k]fluoranthene; C&L Inventory Database
 Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
 Data source date: 02 Mar 2017
 Hazard Statements: Carc. 1B; H350 , 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

■ **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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
 Data source: WM3 1st Edition 2015
 Data source date: 25 May 2015
 Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

GB MCL index number: 601-023-00-4
 Description/Comments:
 Additional Hazard Statement(s): Carc. 2; H351
 Reason for additional Hazards Statement(s):
 20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

Appendix B: Rationale for selection of metal species

arsenic {arsenic compounds, with the exception of those specified elsewhere in this Annex}

Worst Case

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

Worst Case

copper {copper sulphate}

Worst Case

mercury {mercury}

Worst Case

nickel {nickel}

Worst Case

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

Worst Case

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

Worst Case

zinc {zinc oxide}

Most Likely

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

Worst Case

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

Worst Case

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2024.144.6066.11227 (23 May 2024)

HazWasteOnline Database: 2024.144.6066.11227 (23 May 2024)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

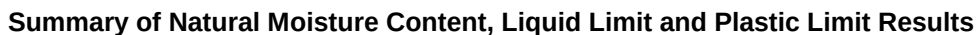
GB MCL List v2.0 - version 2.0 of 20th October 2023

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

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

APPENDIX D

GEOTECHNICAL TEST RESULTS

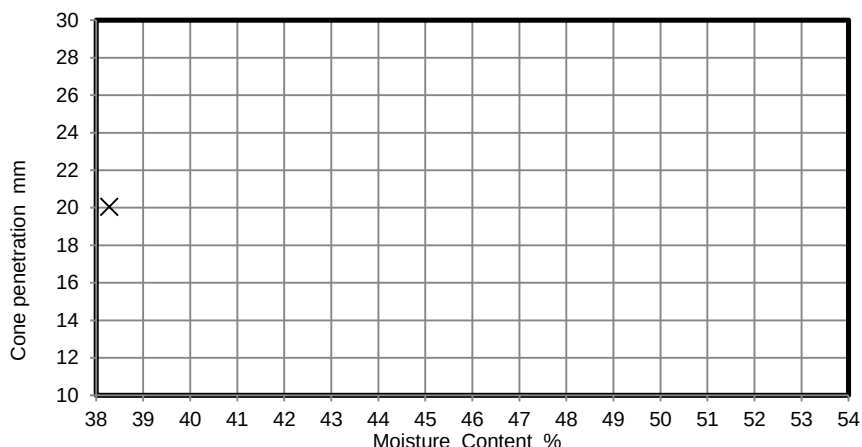


	Test Methods: BS1377: Part 2: 1990: Natural Moisture Content : clause 3.2 Atterberg Limits: clause 4.3 and 5.0 <i>These results only apply to the items tested</i>	Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: James@k4soils.com	Checked and Approved Initials J.P Date: 30/05/2021
	NOTE: The report shall not be reproduced except in full without authority of the laboratory		
2519	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)	MSF-5-R1(b)	



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

	LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX			Job No.	35314
				Borehole/Pit No.	TP101
Site Name	Ikleford			Sample No.	-
Project No.	ES0073	Client	CDS	Depth Top m	2.20
Soil Description	Yellowish brown and occasional orangish brown slightly sandy slightly gravelly silty CLAY with chalk deposits (gravel is fmc and sub-angular chalk and flint)			Depth Base m	-
				Sample Type	D
				Samples received	10/05/2024
				Schedules received	13/05/2024
				Project Started	13/05/2024
				Date Tested	28/05/2024



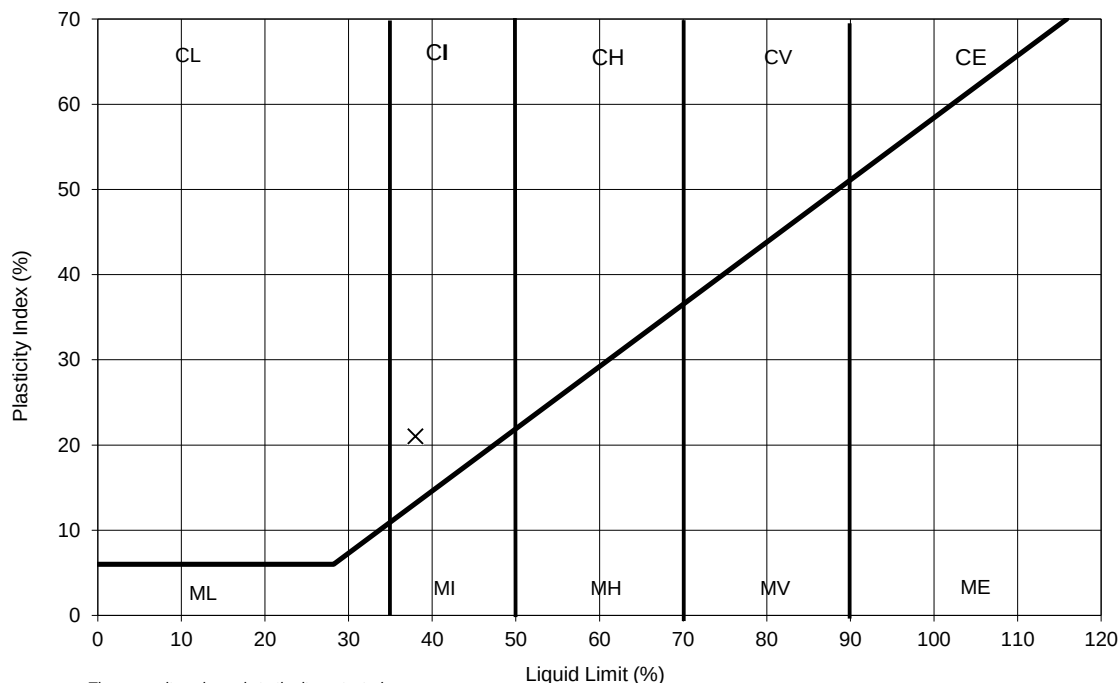
NATURAL MOISTURE CONTENT	17	%
% PASSING 425µm SIEVE	76	%
LIQUID LIMIT	38	%
PLASTIC LIMIT	17	%
PLASTICITY INDEX	21	%

Remarks

Sample washed to obtain test fraction

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

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TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU

Tel: 01923 711 288 Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 30/05/2024



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 35314

Borehole/Pit No. TP103

Site Name Ikleford

Sample No. -

Project No. ES0073

Client

CDS

Depth Top m 1.00

Soil Description

Brown slightly gravelly slightly sandy silty CLAY with traces of roots and rootlets (gravel is fm and sub-angular flint and fine chalk)

Depth Base m -

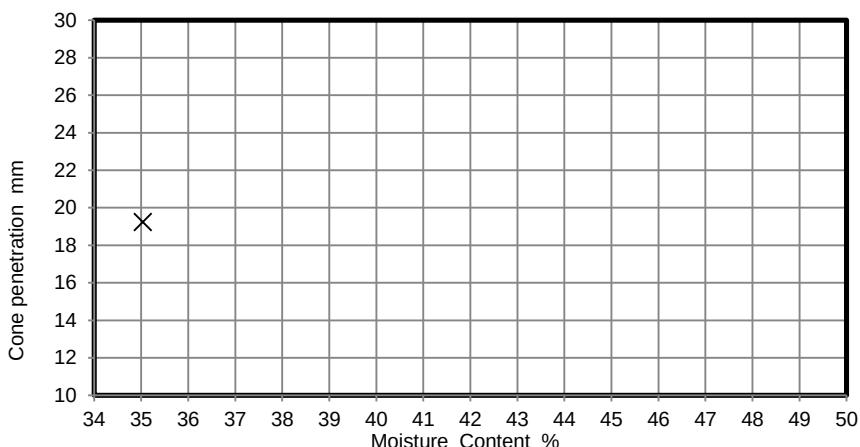
Sample Type D

Samples received 10/05/2024

Schedules received 13/05/2024

Project Started 13/05/2024

Date Tested 28/05/2024



NATURAL MOISTURE CONTENT

18

%

% PASSING 425µm SIEVE

92

%

LIQUID LIMIT

36

%

PLASTIC LIMIT

14

%

PLASTICITY INDEX

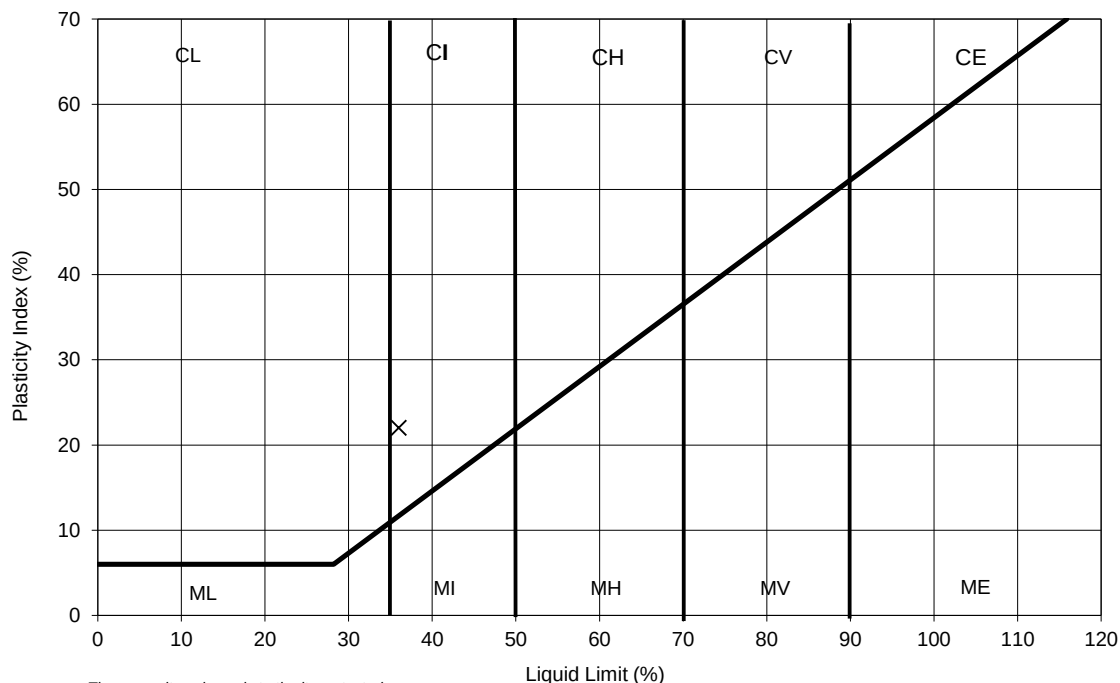
22

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



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TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 35314

Borehole/Pit No. TP104

Site Name Ikleford

Sample No. -

Project No. ES0073

Client

CDS

Depth Top m 0.90

Soil Description

Yellowish brown and brown slightly gravelly sandy silty CLAY with traces of roots and rootlets (gravel is fm and sub-angular and fm chalk)

Depth Base m -

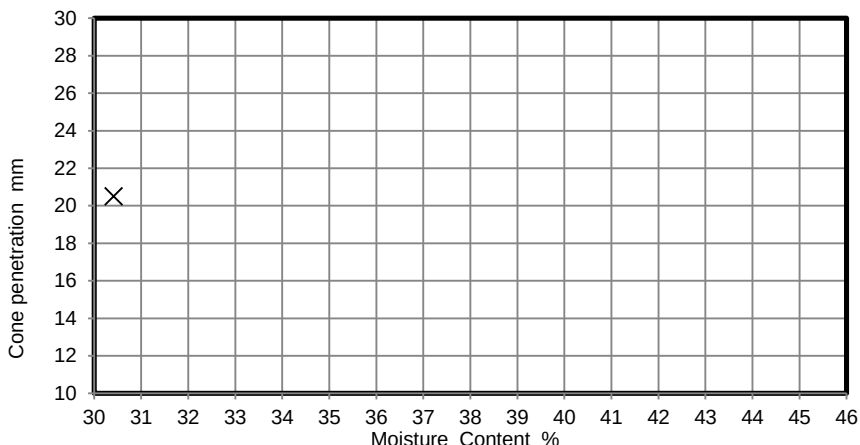
Sample Type D

Samples received 10/05/2024

Schedules received 13/05/2024

Project Started 13/05/2024

Date Tested 28/05/2024



NATURAL MOISTURE CONTENT

18

%

% PASSING 425µm SIEVE

89

%

LIQUID LIMIT

30

%

PLASTIC LIMIT

16

%

PLASTICITY INDEX

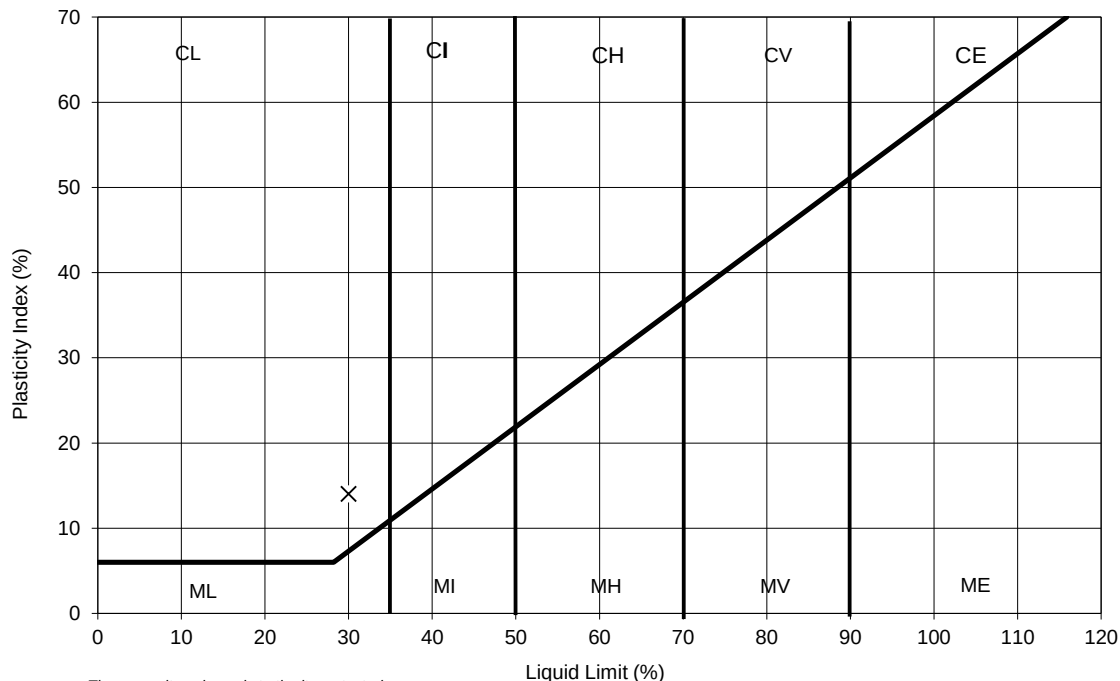
14

%

Remarks

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



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TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

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Date: 30/05/2024

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MSF-5 R2



LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX

Job No. 35314

Borehole/Pit No. TP105

Site Name Ikleford

Sample No. -

Project No. ES0073

Client

CDS

Depth Top m 2.00

Soil Description

Yellowish brown and occasional orangish brown and light grey slightly sandy slightly gravelly silty CLAY with chalk deposits and traces of rootlets (gravel is fmc and sub-angular chalk and flint)

Depth Base m -

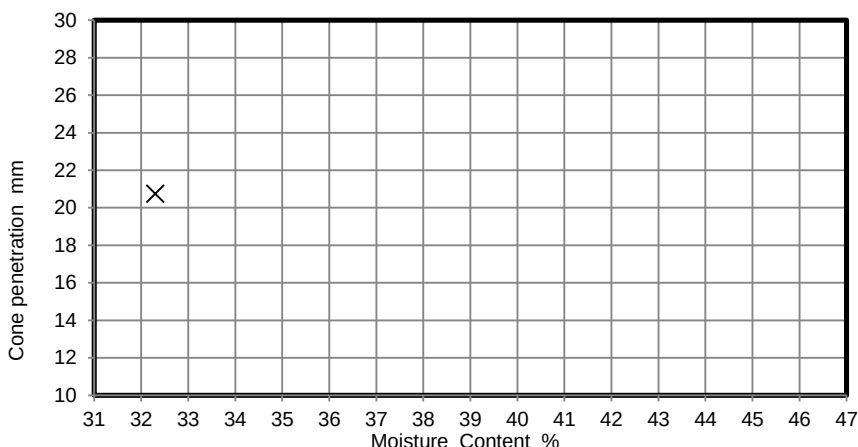
Sample Type D

Samples received 10/05/2024

Schedules received 13/05/2024

Project Started 13/05/2024

Date Tested 28/05/2024



NATURAL MOISTURE CONTENT

16

%

% PASSING 425µm SIEVE

81

%

LIQUID LIMIT

32

%

PLASTIC LIMIT

13

%

PLASTICITY INDEX

19

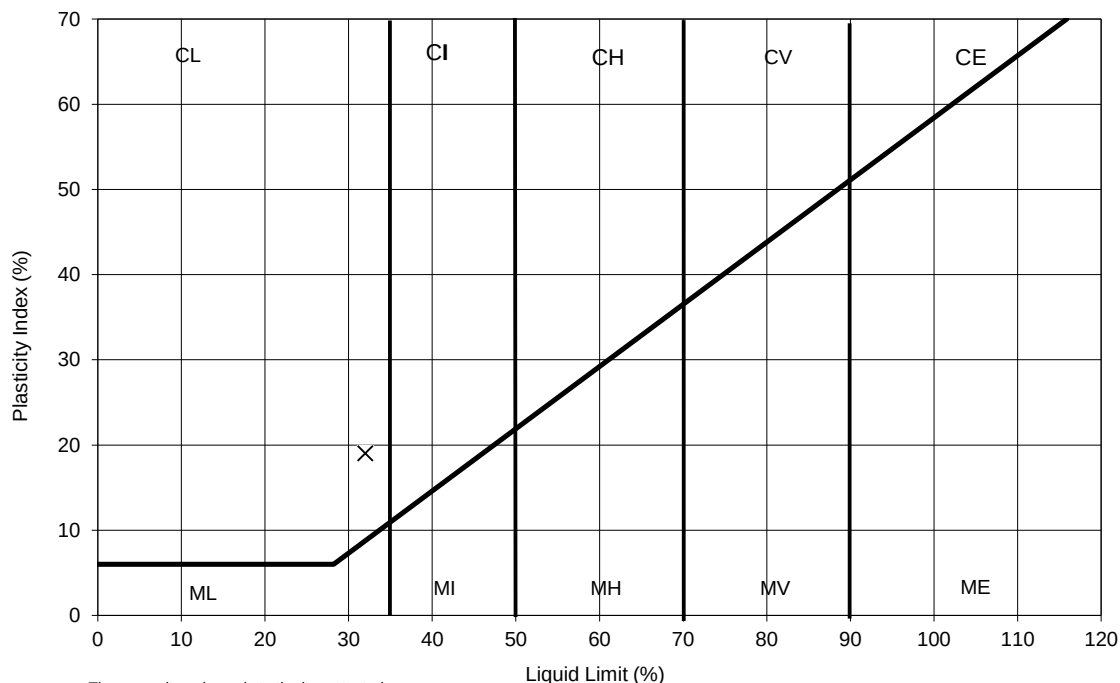
%

Remarks

Sample washed to obtain test fraction

Factors corresponding to the cone penetration and moisture content range in Table 1 (BS1377:1990 ; Part 2)

PLASTICITY INDEX



These results only apply to the items tested

NOTE: The report shall not be reproduced except in full without authority of the laboratory

TEST METHOD

BS1377: Part 2 :Clause 4.4 : 1990 Determination of the liquid limit by the cone penetrometer method

BS1377: Part 2 :Clause 5.0 : 1990: Determination of the plastic limit and plasticity index

BS1377: Part 2 :Clause 3.2 : 1990:Determination of the moisture content by the oven drying

Test Report by K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU

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Checked and Approved

Initials: J.P

Date: 30/05/2024

2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

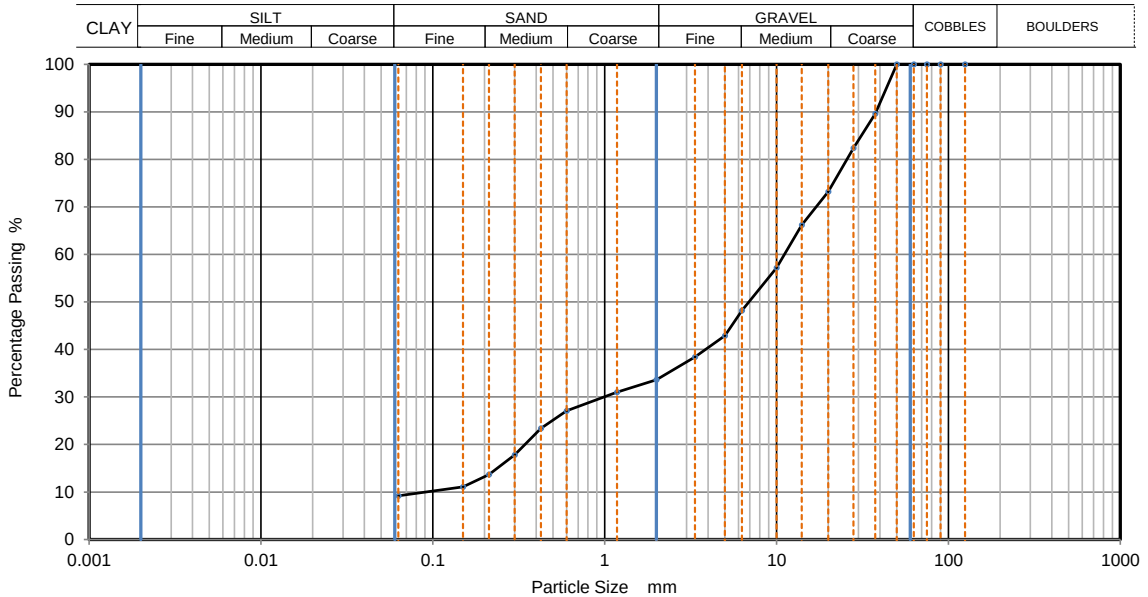
MSF-5 R2



PARTICLE SIZE DISTRIBUTION

Job Ref			35314		
			TP101		
Borehole/Pit No.			TP101		
Sample No.			-		
Depth Top			0.90 m		
Depth Base			- m		
Sample Type			D		
Samples received			10/05/2024		
Schedules received			13/05/2024		
Project started			13/05/2024		
Date tested			29/05/2024		

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	90		
28	82		
20	73		
14	66		
10	57		
6.3	48		
5	43		
3.35	38		
2	34		
1.18	31		
0.6	27		
0.425	23		
0.3	18		
0.212	14		
0.15	11		
0.063	9		

Sample Proportions	% dry mass
Very coarse	0
Gravel	67
Sand	24
Fines <0.063mm	9

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	120
Curvature Coefficient	0.98

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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K4 Soils Laboratory

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Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 30/05/2024

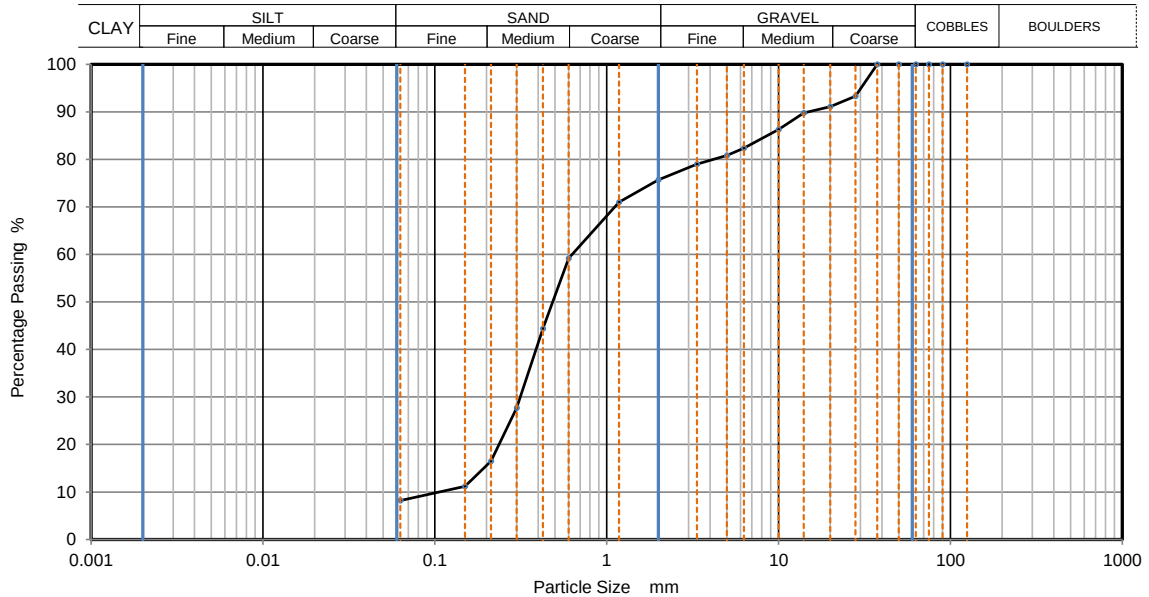
2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

	PARTICLE SIZE DISTRIBUTION			Job Ref	35314
				Borehole/Pit No.	TP102
Site Name	Ikkeford			Sample No.	-
Project No.	ES0073	Client	CDS	Depth Top	2.20 m
Soil Description	Orangish brown clayey very gravelly SAND (gravel is fmc and sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	10/05/2024
				Schedules received	13/05/2024
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	13/05/2024
				Date tested	29/05/2024

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	93		
20	91		
14	90		
10	86		
6.3	82		
5	81		
3.35	79		
2	76		
1.18	71		
0.6	59		
0.425	44		
0.3	28		
0.212	17		
0.15	11		
0.063	8		

Sample Proportions	% dry mass
Very coarse	0
Gravel	24
Sand	68
Fines <0.063mm	8

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	5.9
Curvature Coefficient	1.5

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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	K4 Soils Laboratory	Checked and Approved
	Unit 8, Olds Close, Watford, Herts, WD18 9RU	Initials: J.P
	Email: james@k4soils.com Tel: 01923 711288	Date: 30/05/2024
2519	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)	MSF-5-R3