



CCG-C-19-11308

**PHASE II GEO-ENVIRONMENTAL
INVESTIGATION REPORT FOR SITE AT**

**THE WHITE HOUSE CLUB, MIDDLETON
ROAD, CRUMPSALL, MANCHESTER
M8 4JZ**

JANUARY 2020



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Client:	Branley Homes Ltd
Project Title:	Phase II Geo-Environmental Investigation Report for The White House Club, Middleton Road, Crumpsall, Manchester M8 4JZ
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Date:	January 2020
Revision Number:	01
Comments:	Report updated April 2021
Status:	Final
Distribution:	Branley Homes Ltd

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1.0 INTRODUCTION

CC GEOTECHNICAL LIMITED (CCG) was commissioned by **BRANLEY HOMES LTD** to undertake ground investigation works in connection with the proposed re-development of a parcel land at Middleton Road, Crumpsall, Manchester M8 4JZ. The land comprises the area occupied by the White House Club building and its associated forecourt and bowling green, together with an extensive tract of adjoining land to the west of the club.

Following the demolition of the former Whitehouse Club and subsequent site clearance, it is proposed that the site be redeveloped as follows:

- Construction of a replacement social club building at the eastern end of the site
- Construction of a 60-space off-road car park immediately west of the new club house
- Construction of 2nr x 3storey apartment blocks with dedicated parking areas immediately west of the 60-space car park referred to above
- Construction of 50nr residential dwellings on the western half of the site, comprising 32nr x 2-storey and 18nr x 2.5-storey houses arranged in pairs of semi-detached and terraces of 3 and 4 units, each with off road parking bays and front and rear private gardens
- Construction of a road layout providing access to all areas of the proposed development

The existing and proposed site layouts are as annotated on **GRAYS ARCHITECTURE LIMITED** architectural drawings contained in Appendix A.

The site was the subject of a Phase I desk study prepared by **BRIAN CLANCY HIGBY PARTNERSHIP** under the report reference No. **1701-6450**. The conclusions of the report indicate the eastern section of the site has remained relatively unchanged. However, between the early 1920's and the 1950's a sports ground was developed and extended to the west of the site. Site observations strongly suggest that the area of the sports ground has been artificially raised by the placement of fill. The phase I report suggests low risk of the site being contaminated by ground gases due to the fill being at least 60 years old.

Notwithstanding the findings of the desk study, given the sensitivity of the proposed end use, an intrusive investigation was undertaken to provide a bank of soil contamination data, gas monitoring data, and geotechnical engineering data on which appropriate risk assessments and foundation design could be based.

This report must be read in conjunction with the Phase I Desk Study and with the Notes on Limitations, given in Appendix N.

2.0 SITE LOCATION & DESCRIPTION

The site is located to the west of Middleton Road, Crumpsall, Manchester M8 4JZ. at National Grid Reference (NGR) 383520E, 403027N.

It is accessed via Middleton Road at the eastern boundary of the site, and is set in a generally mature residential context, being adjoined by residential properties to the north, east, south and west

The overall site is irregular in shape, comprising an approximately rectangular footprint of the former club and associated car park and bowling green, and a much larger approximately square area of open land to the west. The overall area extends to circa 1.96Ha.

The expanse of land forming the western half stands at a level about 4m higher than the eastern half. It formerly accommodated playing fields. Around the periphery of this area are numerous mature trees forming a buffer to the surrounding residential properties. The area is sensibly flat. It was very wet and boggy at the time of the ground investigations.

3.0 DOCUMENTED GEOLOGY

The geology of the site was researched by reference to the 1:50000 scale British Geological Survey (BGS) and is summarised hereunder:

Artificial - There are no records of any artificial ground onsite. However, given the history of the site, superficial made ground deposits of an unknown composition thickness and extent associated with previous land uses, may exist.

Drift - The superficial deposits are recorded to comprise Till, Devensian - Diamicton. Superficial Deposits formed in the Quaternary.

Solid - The solid geology is recorded to comprise the Chester Formation (*formerly the Chester Pebble Bed Formation*) of the Sherwood Sandstone Group. —Sandstone, Pebbly (Gravelly).

4.0 FIELDWORK

4.1 Introduction

A programme of fieldwork investigation was undertaken in November 2019. The programme works comprised of:

- The excavation and CAT scanning of 10nr trial pits by mechanical excavation methods.
- The manual excavation and CAT scanning of 6nr borehole starter pits, each extending to 1.2mbgl.
- The advancement of 6nr borehole starter pits using light cable percussive boring methods
- The subsampling of starter pit arisings for soil contamination testing
- The subsampling of recovered soils for soil contamination testing
- The subsampling of recovered soils for geotechnical classification and strength testing
- The installation of 50mm HDPE plan and slotted well-tube complete with non-lime pea gravel surrounded and bentonite seal and associated head works at 4nr borehole positions.
- The in-situ determination of CBR values by DCP (Dynamic Cone Penetrometer) methods extending from ground level at 14nr positions.
- The undertaking of a gas monitoring and groundwater monitoring programme comprising of 6nr rounds completed over a 6-month period

The fieldwork was planned in accordance with BS10175: 2013 and carried out in accordance with BS10175: 2013 and BS5930: 2015, and the sampling and monitoring methodologies employed by **CCG** as presented in Appendix C, insofar as they related to the scope of the investigation.

The investigation layout is as shown on **CCG** Drawing No. **11308-03 and 11308-04** contained in Appendix A.

4.2 Cable Percussion Boreholes

6nr boreholes were sunk by cable percussive methods using a Dando 3000 sampling rig at locations as annotated on **CCG** Drawing No. **CCG-C-19-11308-03** presented in Appendix A. 4nr boreholes were advanced to 10mbgl, the remaining 2nr boreholes being advanced to 15mbgl

Each borehole was positioned clear of services and scanned using CAT service scanner before and during hand excavation of a starter pit extending to 1.20mbgl.

Boring tools were decontaminated prior to commencement.

Standard penetration tests were carried out at regular depth increments as the boreholes were advanced. UT100 undisturbed samples were recovered in cohesive strata. Bulk disturbed samples were recovered at regular depth increments.

Logs of the boreholes annotated with sampling details, SPT 'N' and Cu values are given in Appendix D.

4.3 Trial Pits

A total of 10nr trial pits were excavated by mechanical digger to nominal depths of 4mbgl. The locations are as annotated on **CCG** Drawing No. **CCG-C-19-11308-03** presented in Appendix A.

Each trial pit was positioned clear of all services and scanned using CAT service scanner before and during hand excavation.

The pits were carefully logged. and environmental and bulk disturbed samples recovered at regular depth intervals before the arisings were returned to the excavation in the reverse order of their excavation to preserve, insofar as was possible, the original lithology.

Logs of the trial pits annotated with sampling details are given in Appendix E, photographs of the trial pits are presented in Appendix F.

4.4 Monitoring Installations

Standpipes comprising 50mm diameter HDPE plain and slotted well-tube set in bentonite and non-limestone pea gravel surround were installed at 4nr borehole positions. Each standpipe was fitted with a gas valve connector, and was protected by a flush cover set in concrete. Details of standpipe installations are provided on the relevant borehole logs in Appendix D and summarised in the tabulation hereunder:

Table 1: Borehole Installation Details

BOREHOLE	DEPTH OF BOREHOLE (mbgl)	DEPTH OF STANDPIPE [mbgl]	RESPONSE ZONE	
			FROM [mbgl]	TO [mbgl]
BH1	10.00	7.00	0.50	7.00
BH2	10.00	7.00	0.50	7.00
BH4	10.00	6.00	0.50	6.00
BH5	15.00	13.00	0.50	13.00

The standpipe installations were periodically monitored for flow rate and composition of ground gas using a Gas Data GFM 436 infra-red analyser. The installations were also monitored for standing water levels with an electronic dip meter.

The results of the gas and groundwater monitoring are presented in Appendix G.

5.0 OBSERVED GROUND CONDITIONS

5.1 Stratigraphy

The stratigraphy revealed by the boreholes and trial pits was partially consistent with the documented geology.

On the eastern half of the site as represented by BH1, BH5 and BH6 the succession was observed to commence with MADE GROUND deposits extending to around 1.3mbgl at the eastern extremity (BH5 / BH6) to 2.8mbgl at BH1. These deposits comprise heterogeneous mixtures of gravels of brick, ceramics and sandstone, in a matrix of sand. Beneath the made ground, the sequence continues in medium dense deposits of silty gravelly SAND the base of which is at around 4.5mnagl. Beneath the sand, the succession continues in stiff CLAY deposits interbedded with medium dense varying to dense bands of silt and silty sand, the sequence proven to 15mbgl.

On the western half of the site as represented by BH2, BH3 and BH4 the succession was observed to commence with MADE GROUND deposits extending to around 5mbgl. These deposits comprise heterogeneous mixtures of clayey gravelly SAND and CLAY. Beneath the made ground, the sequence continues in silty, gravelly fine to coarse grained SAND proven to a depth of 10mbgl.

5.2 Groundwater Regime

A number of groundwater entries were encountered at trial pit and borehole positions. In TP5 at 1.30mbgl, in TP10 at 2.50mbgl, in TP1 at 4.00mbgl, in BH5 at 12.00mbgl, and in BH6 at 10.50mbgl rising to 10.50 after a time lapse of 20minutes.

6.0 LABORATORY TESTING

6.1 Soil Contamination Testing

A programme of soil chemical analyses was undertaken at a UKAS / MCERTS accredited laboratory as follows:

- 11nr subsamples of made ground soils were analysed to a broad-spectrum suite of contaminants including pH, metals, non-metals, heavy metals, speciated PAH's, speciated hydrocarbons to the TPHCWG methodology, and asbestos.
- 6nr samples were subjected to water soluble sulphate and pH analyses in accordance with BS 1377: Part 4: 1990.
- 3nr samples were subject to WAC analysis
- Leachates were prepared from each of 2nr soil samples recovered from TP1 & TP6 and were analysed for a broad range of contaminants including metals, non-metals and Speciated PAH's, hydrocarbons to the TPHCWG methodology, BTEX compounds and MTBE.
- 1nr groundwater sample from BH5 was analysed for a broad range of contaminants including metals, non-metals and speciated PAH's, hydrocarbons to the TPHCWG methodology, BTEX compounds and MTBE.

The soil contamination test results and certificates from this investigation are presented in Appendix H.

6.2 Soil Classification Testing

The following programme of soil geotechnical testing was undertaken at the **UKAS** accredited laboratory of **CCG**.

- Determination of soil moisture content in accordance with BS 1377: Part 2: 1990 - 9nr samples
- Determination of Atterberg Limits in accordance with BS1377: Part 2: 1990 - 7nr samples
- Determination of Particle Size Distribution in accordance with BS1377: Part 2: 1990 - 16nr samples
- Unconsolidated Undrained Triaxial Compression Test BS1377-7:1990 - 1 nr sample

Soil geotechnical test results are presented in Appendix I.

7.0 RISK ASSESSMENT FOR THE PROTECTION OF HUMAN HEALTH

7.1 Generic Quantitative Risk Assessment (Tier 2 / GQRA)

An assessment of the soil analysis data arising from the investigation (11nr soils analyses) was carried out in accordance with the guidance presented in CLR11 and in accordance with current guidance and legislation (Appendix M).

The Human Health Risk Assessment was carried out in accordance with the **CCG** methodology for assessing soil contamination data as contained in Appendix C, and since it is proposed that the site be redeveloped for residential use, the assessment was based on criteria contained in publication LQM/CIEH S4UL's for Human Health Risk Assessment (2015) (CCG licence S4UL3233), applicable to the "Residential with Home Grown Produce" land use scenario. This document does not provide criteria for Lead, for which the results were compared to the C4SL published by DEFRA SP1010 Development of Category 4 Screening Levels.

7.2 Assessment of Contamination Data

Based on a Soil Organic Matter content average of 1%, the assessment of the soil data is summarised in the tabulations hereunder, and presented on the worksheets in Appendix J.

7.2.1 Assessment of Metal Data

The assessment of the metal data is presented hereunder:

Table 2: Assessment of Metal Data

Contaminant	LQM / CIEH S4UL (mg/kg)	Maximum (mg/kg)	Exceedances	
			(mg/kg)	Location
Cadmium	11	2.9	-	-
Chromium	910	38.8	-	-
Copper	240	126	-	-

Lead	200	562	562 447	BH5 @ 0.30mbgl BH6 @ 0.40mbgl
Mercury	1.2	8.3	8.3 6.6	BH5 @ 0.30mbgl BH6 @ 0.40mbgl
Nickel	180	38.8	-	-
Zinc	3700	385	-	-

The above assessment concludes that Lead and Mercury contaminants are present at BH5 and BH6 at concentrations that exceed their respective guideline criteria and hence a risk to human health is indicated.

7.2.2 Assessment of Non-Metal Data

The assessment of the non-metal data is presented hereunder:

Table 3: Assessment of Non-Metal Data

Contaminant	LQM / CIEH S4UL (mg/kg)	Maximum (mg/kg)	Exceedances	
			(mg/kg)	Location
Arsenic	37	40.5	40.5	BH5 @ 0.30mbgl
Selenium	250	1.4	-	-
Free Cyanide	22	< 0.1	-	-

The above assessment concludes that Arsenic contaminants are present at BH5 at a concentration that exceeds their respective guideline criteria and hence a risk to human health is indicated.

7.2.3 Assessment of Polycyclic Aromatic Hydrocarbon [PAH's] Data

The assessment of the Polycyclic Aromatic Hydrocarbon (PAH's) data is presented hereunder:

Table 4: Assessment of PAH Data

Contaminant	LQM / CIEH S4UL (mg/kg)	Maximum (mg/kg)	Exceedances	
			(mg/kg)	Location
Acenaphthene	210	0.2	-	-
Acenaphthylene	170	<0.1	-	-
Anthracene	2400	0.3	-	-
Benz(a)anthracene	7.2	1.2	-	-
Benzo(a)pyrene	2.2	1.3	-	-
Benzo(b)fluoranthene	2.6	1.2	-	-
Benzo(g,h,i)perylene	320	1.0	-	-
Benzo(k)fluoranthene	77	1.3	-	-
Chrysene	15	1.2	-	-
Dibenzo(ah)anthracene	0.24	0.2	-	-
Fluoranthene	280	2.0	-	-
Fluorene	170	<0.1	-	-
Indeno(1,2,3-cd)pyrene	27	0.9	-	-
Naphthalene	2.3	<0.1	-	-
Phenanthrene	95	1.1	-	-
Pyrene	620	1.8	-	-

The above assessment concludes that no PAH species are present at concentrations that exceed their respective guideline criteria and hence no risk to human health is indicated.

7.2.4 Assessment of Total Petroleum Hydrocarbon [TPH's] Data

The assessment of TPH data is presented hereunder:

Table 5: Assessment of Hydrocarbon Data

Contaminant	LQM / CIEH S4UL (mg/kg)	Maximum (mg/kg)	Exceedances	
			(mg/kg)	Location
Aromatic EC5-EC7	70	<0.01	-	-
Aromatic EC7-EC8	130	<0.01	-	-
Aromatic EC8-EC10	34	<1.0	-	-
Aromatic EC10-EC12	74	<1.0	-	-
Aromatic EC12-EC16	140	<1.0	-	-
Aromatic EC16-EC21	260	1.1	-	-
Aromatic EC21-EC35	1100	82.4	-	-

Aromatic EC35-EC44	1100	45.5	-	-
Aliphatic EC5-EC6	42	<0.01	-	-
Aliphatic EC6-EC8	100	<0.01	-	-
Aliphatic EC8-EC10	27	<1.0	-	-
Aliphatic EC10-EC12	130	<1.0	-	-
Aliphatic EC12-EC16	1100	<1.0	-	-
Aliphatic EC16-EC35	65000	82.9	-	-
Aliphatic EC35-EC44	65000	26.6	-	-

The above assessment concludes that no hydrocarbon fraction is present at concentrations that exceed their respective guideline criteria and hence no risk to human health is indicated.

7.2.5 Assessment of BTEX Data

All BTEX compounds were below their limit of detection (LOD) and therefore no risk to human health is indicated.

7.2.6 Assessment of Asbestos Data

Asbestos screening confirms that asbestos containing materials (ACM) were not present in any sample analysed and therefore no risk to human health is indicated.

7.2.7 Summary of Human Health Risk Assessment

The above assessment confirms the presence of elevated concentrations of Lead, Mercury and Arsenic contaminants and therefore a potential risk to human health is indicated. Appropriate remediation measures are discussed in Section 13.0 hereunder.

8.0 CONTROLLED WATERS RISK ASSESSMENT

The Chester Formation underlying the site is a Principal Aquifer, pollution of which is an offence in law. The Phase I desk study prepared by **BRIAN CLANCY HIGBY PARTNERSHIP** under report reference No. **1701-6450** confirms that the site is not located within a source Protection Zone.

8.1 Assessment of Metals, Non-Metals and PAH's Soil Leachate Data

The assessment of risks to groundwater was carried out on 1nr sample of groundwater recovered from BH5 and 2nr soil leachate samples prepared on soils recovered from positions TP1 at 0.2mbgl and TP6 at 0.8mbgl and were analysed for a broad range of contaminants. The results were assessed against both Environmental Quality Standards (AA-EQS) for inland surface waters and Drinking Water Standards (DWS) assessment criteria as shown hereunder and presented in Appendix J.

8.1.1 Metals/Non-Metals Soil Leachate Data and Water Data

Tabulated results for detected metal/semi-metal species are provided hereunder, criteria transgressions are highlighted.

Table 6: Assessment of Water and Soil Leachate Metal, Non-Metal Data

Contaminant	AA-EQS (ug/l)	DWS (ug/l)	Maximum (ug/l)	Exceedances	
				(ug/l)	Location
Lead	4	-	<5	-	-
Calcium	-	-	109000	-	-
Magnesium	-	-	6550	-	-
Zinc	50	-	<5	-	-
Nickel	50	-	<5	-	-
Copper	22	-	<5	-	-
Boron	-	-	40	-	-
Cyanide	5	-	<5	-	-
Arsenic	50	-	<5	-	-
Mercury	1	1	<0.1	-	-
Selenium	5	-	<5	-	-
Cadmium	5	-	<1	-	-
pH	6.0-9.0	-	6.5	-	-
Sulphate	400000	250000	85	-	-

The above assessment confirms that no soil leachate of metal/non-metal contaminant exceeds its respective guideline criteria for

commercial land use.

8.1.2 Speciated PAH's Soil Leachate Data and Water Data

Tabulated results for speciated PAH's are provided hereunder, criteria transgressions are highlighted.

Table 7: Assessment of Water and Soil Leachate Speciated PAH Data

Contaminant	AA-EQS (ug/l)	DWS (ug/l)	Maximum (ug/l)	Exceedances	
				(ug/l)	Location
Naphthalene	2.4	-	0.24	-	-
Fluoranthene	0.1	-	0.53	0.53	BH5
Phenanthrene	-	-	0.83	-	-
Anthracene	0.1	-	0.2	0.2	BH5
Acenaphthylene	-	-	0.03	-	-
Pyrene	-	-	0.54	-	-
Chrysene	-	-	0.3	-	-
Fluorene	-	-	0.17	-	-
Indeno(123-cd)pyrene	0.002	0.1	0.23	0.23	BH5
Benzo(ghi)perylene	0.002	0.1	0.39	0.39	BH5
Benzo[a]pyrene	0.05	0.1	0.49	0.49	BH5
Benzo[a]anthracene	-	-	0.57	-	-
Benzo[k]fluoranthene	0.03	0.1	0.2	0.2	BH5
Benzo[b]fluoranthene	0.03	0.1	0.47	0.47	BH5

It can be seen several speciated PAH's exceed their respective EQS and in some cases respective DWS criteria.

8.1.3 Assessment of Hydrocarbon Soil Leachate Data And Water Data

Speciated hydrocarbon results were assessed by comparison with AA-EQS values for inland surface waters. In case of determinants not covered by AA-EQS values, results were compared to WHO guidelines for Surface Waters. Tabulated results for the hydrocarbon are provided hereunder, with criteria transgressions highlighted.

Table 8: Assessment of Water and Soil Leachate Hydrocarbon Data

Contaminant	AA-EQS (ug/l)	WHO DRINKING WATER ug/l	Maximum (ug/l)	Exceedances	
				(ug/l)	Location
Aromatic EC5-EC7 (benzene)	10	-	<1.0	-	-
Aromatic EC7-EC8 (toluene)	50	-	<1.0	-	-
Aromatic EC8-EC10 (ethyl benzene)	-	-	<1.0	-	-
Aromatic EC10-EC12	-	-	<5.0	-	-
Aromatic EC12-EC16	-	-	21.2	-	-
Aromatic EC16-EC21	-	-	34.2	-	-
Aromatic EC21-EC35	-	-	177	-	-
Aliphatic EC5-EC6	-	-	<1.0	-	-
Aliphatic EC6-EC8	-	-	<1.0	-	-
Aliphatic EC8-EC10	-	-	<5.0	-	-
Aliphatic EC10-EC12	-	-	<5.0	-	-
Aliphatic EC12-EC16	-	-	<5.0	-	-
Aliphatic EC16-EC21	-	-	8.1	-	-
Aliphatic EC21-EC35	-	-	137	-	-

8.2 Summary of Controlled Waters Risk Assessment

The above controlled waters risk assessment confirms that several Polyaromatic Hydrocarbons (PAHs) are present in the soil contaminant assessment and exceed the respective AA-EQS and/or DWS guideline criteria and therefore a potential risk to controlled waters is indicated. However, since the site is not located within a Source Protection Zone, the nearest water abstraction license being over 900m from the site, and taking account of the relatively low margin of exceedance, it is not considered that groundwater quality on the site presents a significant risk to Controlled Waters.

9.0 GAS RISK ASSESSMENT

The evidence of the Phase I desk study prepared by **BRIAN CLANCY HIGBY PARTNERSHIP** under the report reference No. **1701-6450** postulates that there is a low risk of the site being contaminated by ground gases. However as noted in the site history

assessment the western area of the site has been upfilled to form the football playing field, thus has been assessed to determine the risk of the formation of harmful ground gases.

Standpipes were constructed such that response zones were within the permeable made ground strata. Using the data gathered in the monitoring programme, a gas risk assessment was undertaken in accordance with the ground gas risk assessment methodology (See Appendix C) employed by **CCG**. The ground gas risk assessment methodology conforms to current UK guidance on the assessment of risks posed by ground gases.

The potential sources of gas identified in the desk study were generally considered as sources of “Low” generation potential. Since the development is of high sensitivity, a programme of monitoring comprising of 6nr rounds distributed over a 3-month period was adopted.

A gas risk assessment was undertaken in accordance with current UK guidelines set out in CIRCA C665 2007 “Assessing Risk Posed by Hazardous Gases to Buildings”. The CIRIA risk assessment methodology uses typical maximum soil gas concentrations and worse case borehole flow rates to define a “Characteristic Situation” for the shallow gas regime.

The volumetric gas flow rate used by the risk assessment is termed “Gas Screening Value (GSV)” in the guidance and is defined below.

$$GSV \text{ (litres/hr)} = \text{borehole flow rate (litres/hr)} \times \text{gas concentration.}$$

There are also two stages to the assessment method proposed in CIRIA C665; compliance with a GSV Threshold Value and secondly, compliance with additional factors such as maximum permissible gas concentration. A summary of the gas monitoring data is presented hereunder and presented in Appendix G.

Table 9: Summary of Gas Monitoring Data

Position	BH1	BH2	BH4	BH5
No Monitoring Visits	2	2	2	2
CH ₄ (%)	Nil	Nil	Nil	Nil
CO ₂ (%)	5.6	5.1	4.8	5.9
O ₂ (%)	6.6	7.9	11.4	13.7
H ₂ S (ppm)	Nil	Nil	Nil	Nil
CO (ppm)	Nil	Nil	Nil	Nil
Flow (l/hr)	>0.01	>0.01	>0.01	>0.01
Water Levels (m)	2.66	Dry	3.45	4.80
PID response	1.0	1.0	1.0	1.0
Pressure Range (mb)	1005-1011	1005-1011	1005-1011	1005-1011

After the initial rounds of monitoring, a Gas Screening Value (GSV) of 0.059 l/hrs is calculated for CO₂.

Using these GSV values, the risk to the proposed development was assessed in line with Situation 1 as defined in CIRIA C665. The results indicate a Characteristic Situation 1. However, CO₂ concentrations are persistently above 5%, and in this circumstance CIRIA C665 recommends that the classification be advanced to CS2, for which protective measures are required. Appropriate measures are set out in Section 13 below.

It should be borne in mind that 4 further rounds of monitoring are required to confirm these preliminary conclusions, and the additional results will be provided as an addendum to this report.

10.0 BURIED CONCRETE SPECIFICATION

The data obtained in the investigations was assessed against the guidance given in BRE Special Digest 1: 2005, presented in Appendix J and is summarised hereunder:

Table 10: Design Chemical Class Based on Soil Data

CONCRETE SPECIFICATION DATA SHEET		
Is the site Brownfield or Greenfield?	Brownfield	
Is the water table static or mobile?	Static	
Highest water-soluble Sulphate results	42	Design Sulphate Class of DS-1 Class of AC-1s
Lowest pH result	5.3	
Intended Working Life	50 years	Adopt Design Chemical Classification of DC-1

Table 11: Design Chemical Class Based on Water Data

CONCRETE SPECIFICATION DATA SHEET		
Is the site Brownfield or Greenfield?	Brownfield	
Is the water table static or mobile?	Static	
Highest water-soluble Sulphate results	85mg/l	Design Sulphate Class of DS-1 Class of AC-1s
Lowest pH result	6.5	
Intended Working Life	50 years	Adopt Design Chemical Classification of DC-1

On the basis of the above, concrete should be specified to conform to the compositional requirements of DC-1 as defined in BRE Special Digest 1: 2005.

11.0 NEW WATER MAINS SUPPLY

Assessment of the soil chemical data to specify the construction of new water mains at the development site was based on the criteria specified in Paper 10/WM/03/21 'Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites' January 2011 published by UK Water Industry Research (UKWIR) and the supplementary guidance UUENG/RL/V2/July 2011 published by United Utilities Water (UUW).

Concentrations of the pertinent soil contaminants were found to be below the threshold values recommended under the UKWIR and UUW guidance. On this basis, new water mains may be specified as normal Alkathene (PE) pipe construction. Pipes should be laid in accordance with BS EN 12201-2 'Plastic piping systems for water supply, and for drainage and sewerage under pressure – Polyethylene (PE) as stated in UKWIR guidance. It is good practice for PE water mains to be laid in a remediated alignment comprising of clean granular fill extending to 600mm + pipe diameter and to 300mm below the pipe underside.

Notwithstanding the above preliminary assessment, the developer should contact the local water supplier (UUW) to obtain concurrence with the recommendations given above. The supplier may require the developer to return a completed UUW Risk Assessment document.

12.0 WASTE CLASSIFICATION

A waste classification exercise was undertaken in relation to potential offsite disposal of excavation arisings. The first stage entailed the assessment of the basic soil contamination data via the **HAZWASTE** online program. The output data from this basic assessment is provided in Appendix K. This program generates the baseline *Hazardous / Non-Hazardous* classification of soils.

The appended **HAZWASTE** report classifies soils samples at all tested locations as 'Non-Hazardous'.

WAC tests were carried out on samples from TP1, TP4 and TP7 (see Appendix J) to assess whether the materials could be disposed of at an 'Inert' landfill. The materials assessed in the locations TP4 at 0.8mbgl and TP7 at 0.6mbgl were suitable for disposal at an 'Inert'. A non-hazardous landfill disposal is applicable to the sample at TP1, due to the elevated levels of Antimony. Therefore it would be reasonable to suggest that spoil arising from excavations in the raised area encompassing the playing fields may be disposed of at an 'Inert' landfill, with spoil arising from excavations in the lower section of the site disposed of at a 'Non-Hazardous' landfill.

It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.

13.0 POST INVESTIGATION CONCEPTUAL MODEL

Based on the findings of the investigation, a conceptual model may be constructed illustrating proven pollution linkages and summarising conceptual remediation recommendations, as tabulated hereunder.

Table 12: Post Investigation Conceptual Model

Source	Primary Pathway	Receptor	Basis of Remediation
Elevated levels of Lead (BH5 & BH6) Mercury (BH5 & BH6) Arsenic (BH5) and several Polyaromatic Hydrocarbons within superficial made ground and reworked deposits.	Ingestion of soils Inhalation of soil dust Ingestion of contaminated produce	Future Residents	Lead, Mercury, Arsenic and several Polyaromatic Hydrocarbons are shown to be present at concentrations that exceed its respective guideline criteria and hence a risk to human health is indicated. Taking account of the spatial distribution of these exceedances, it is recommended that any private gardens within the area delineated on 'CCG Drawing 11308/04' be reduced to 600mm below finished garden level and reconstructed by the placement of a 600mm composite clean imported subsoil / topsoil cover with a minimum thickness of 200mm of topsoil within the cover. However as indicated on the CCG Drawing '11308/04' Appendix A the area requiring action appears to be largely communal gardens, and hence exposure to contamination via plant uptake / ingestion is unlikely, and hence the required remediation on communal landscaped areas may be reduced to a cover of 450mm clean imported topsoil. All materials imported for garden / landscaping cover will be subject to a regime of validation sampling and testing, and proof excavations will be undertaken in all gardens / landscaped areas to verify compliance with the stated thickness. No remediation is required under areas of hardstanding and building cover
Ground gas generation	Accumulation in buildings	Future residents Fabric of buildings	Provide CS2 protection for BS8485:2015 + A1 2019 Type B Building requiring a score of 3.5 in accordance with BS8485 – provided by: Passively vented subfloor void – Score 2.5 Proprietary gas resistant membrane – Score 2 The membrane must be installed under a regime of independent Validation Inspections

14.0 FOUNDATIONS & FLOOR SLABS RECOMMENDATIONS

14.1 Introduction

Following the demolition of the former Whitehouse Club and subsequent site clearance, it is proposed that the site be redeveloped as follows:

- Construction of a replacement social club building at the eastern end of the site
- Construction of a 60-space off-road car park immediately west of the new club house
- Construction of 2nr x 3storey apartment blocks with dedicated parking areas immediately west of the 60-space car park referred to above

- Construction of 50nr residential dwellings on the western half of the site, comprising 32nr x 2-storey and 18nr x 2.5-storey houses arranged in pairs of semi-detached and terraces of 3 and 4 units, each with off road parking bays and front and rear private gardens
- Construction of a road layout providing access to all areas of the proposed development

The existing and proposed site layouts are as annotated on **GRAYS ARCHITECTURE LIMITED** architectural drawings contained in Appendix A.

14.2 Foundations

14.2.1 West

In the observed ground conditions and taking into account of the recorded depth of made ground across the eastern section of the site, traditional spread (strip) foundations cannot be deployed due to the excessive depth of excavation required to reach a suitable natural founding stratum. Consideration may be given to 2 options as described hereunder:

1. Reinforce strips on ground improved by Vibro-displacement stone columns
2. Piled ground beam foundations

With regard to vibro ground improvement, the physical characteristics of the clay made ground soils indicate that they would be marginally responsive to this form of ground improvement, and taking account of the gassing regime prevailing on the site this form of foundation construction is discounted, since the stone columns would provide conduits for the efficient migration of ground gases.

The pile ground beam solution is preferred. In the observed ground conditions, a number of piling methods may be considered, but precast concrete driven piles are probably the best option in terms of cost and speed of installation. For the purposes of preliminary design, the maximum carrying capacity of single isolated precast concrete piles may be taken as:

Table 13: Maximum carrying capacity of single isolated precast concrete piles

Pile Section mm x mm	Max SWL kN
200 x 200	350
250 x 250	550

14.2.2 East

Where the ground levels are at or close to the natural level of 76mAOD, it may be feasible to adopt spread (pad or strip) foundations bearing on the natural sand. Some variation in depth of foundation would be required as evidenced by BH5 where the sand is at 1.2mbgl and BH1 where the sand is at 2.8mbgl. SPT`N` values obtained in the sand indicate a Presumed Bearing Value of 100kN/m² may be taken as the basis of foundation design.

On this area vibro ground improvement would be ideally suited to the physical ground conditions, but the method is discounted for the reasons discussed in Section 14.2.1 above.

Where high loadings require excessively large foundations based on the recommended Presumed Bearing Value, or to avoid variations in excavation depths, then piled foundations may be considered. As stated above precast concrete driven piles would offer the optimum solution in terms of cost and speed.

14.3 Ground Slabs

Fully suspended beam and block, or similar precast system floors must be adopted for all buildings. The design of the ground floor should incorporate a proprietary gas proof membrane and a passively vented subfloor void.

14.4 Excavations

Excavations may be undertaken in the made ground deposits by light hydraulic excavators. Excavations in excess of 1.2mbgl will

require side support.

14.5 Groundwater Management

Notwithstanding that groundwater observation showed minimal accumulations at shallow depth, prudent contractors would allow for some pumping to maintain dry conditions in excavations during periods of rainfall.

14.6 Pavement Design

CBR determinations were carried out by the TRL Dynamic Cone Penetrometer method. The test provides a profile of the variation in strength (%CBR) at and below the subgrade level. Inherent variations in resistance are generally observed over the depth of penetration of the test, requiring a subjective judgement as to an appropriate design CBR.

Table 14 summarises the minimum CBR values where the DCP test significantly penetrated the subsoils, the full data set is presented in Appendix L. The locations of the DCP testing is presented on 'CCG Drawing 11308-04' presented in Appendix A.

Table 14 Subgrade CBR%

Location	Min CBR %
CBR1	5
CBR2	4
CBR3	3
CBR4	3
CBR5	1
CBR6	1
CBR7	6
CBR8	2
CBR9	2
CBR10	3
CBR11	1
CBR12	1
CBR13	6
CBR14	1

DCP testing at the instructed locations CBR1-CBR14, showed variable CBR% values, with results as low as 1% observed at depths of up to 1mbgl. On the basis of the obtained results, it is recommended that any new external trafficked pavements be designed on a CBR of 1%.

15.0 CONCLUSIONS & RECOMMENDATIONS

The conclusions and recommendations hereunder are based on the salient sections of the report and should not be referred to in isolation of the relevant sections of the text. All recommendations are subject to Regulatory Authority review.

Table 15: Conclusions & Recommendations

Soil Contamination / Remediation	The above assessment confirms the presence of elevated concentrations of Lead, Mercury and Arsenic contaminants and therefore a potential risk to human health is indicated. Notwithstanding the assessment, as shown on the appended proposed redevelopment layout plan, the development will provide full hard cover with garden/landscape area with minor panted beds, hence pathways of exposure will pertain. It is recommended that the garden/landscaped areas within the area delineated on CCG Drawing '11308/04' to be reduced to 600mm below finished garden level and reconstructed by the placement of a 600mm composite subsoil / topsoil layer with a minimum thickness of 200mm of topsoil within the cover. However as indicated on the CCG Drawing '11308/04' Appendix A the area requiring action appears to be communal gardens, hence exposure of contaminants due to plant uptake is minimised, hence a 450mm below finished garden level and reconstructed by the placement of a 200mm composite subsoil / topsoil layer will be sufficient. The remaining garden/landscaped areas should receive a minimum cover of 200mm clean imported topsoil to promote plant establishment. No action is required in areas of hardstanding. It should be borne in mind that this investigation has not assessed existing topsoil quality, and should contractors recover topsoil for reuse in the project, then this must be subjected to validation analysis to demonstrate that it is free from contamination. Similar validation testing will be required for imported topsoil.
Concrete Specification	On the basis of the above assessment, concrete should be specified to conform to the compositional requirements of DC-1 as defined in BRE Special Digest 1: 2005.
Gas Risk Assessment	The evidence of the Phase I desk study prepared by Brian Clancy Higby Partnership under report reference No. 1701-6450 is that there is a low risk of the site being contaminated by ground gases. However as noted in the site history assessment the western area of the site has been upfilled to form the football playing field, thus has been assessed to determine the risk of the formation of harmful ground gases. Gas screening values presented in this report are of a preliminary nature due to the number of visits that have occurred. 1nr visits have taken place, there are an expected 5nr visits to take place in order to obtain a reliable gas screening value. A classification of CS2 was determined for the site. This requires a regime of gas protection measures. See Section 10.0 for fuller discussion
Water Mains	Assessment of the soil chemical data to specify the construction of new water mains at the development site was based on the criteria specified in Paper 10/WM/03/21 'Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites' January 2011 published by UK Water Industry Research (UKWIR) and the supplementary guidance UUENG/RL/V2/July 2011 published by United Utilities Water (UWU). Concentrations of the pertinent soil contaminants were found to be below the threshold values recommended under the UKWIR and UWU guidance. On this basis, new water mains may be specified as normal Alkathene (PE) pipe construction. Pipes should be laid in accordance with BS EN 12201-2 'Plastic piping systems for water supply, and for drainage and sewerage under pressure – Polyethylene (PE) as stated in UKWIR guidance. It is good practice for PE water mains to be laid in a remediated alignment comprising of clean granular fill extending to 600mm + pipe diameter and to 300mm below the pipe underside. Notwithstanding the above preliminary assessment, the developer should contact the local water supplier (UWU) to obtain concurrence with the recommendations given above. The supplier may require the developer to return a completed UWU Risk Assessment document.
Waste Classification	A waste classification exercise was undertaken in relation to potential offsite disposal of excavation arisings. The first stage entailed the assessment of the basic soil contamination data via the HAZWASTE online program. The output data from this basic assessment is provided in Appendix F. This program generates the baseline Hazardous / Non-Hazardous classification of soils. The appended HAZWASTE report shows that all soils analysed classify as 'Non-Hazardous'. It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.
Foundations & Ground Floor Slabs	See Section 20.0 for full discussion.
Excavations	Excavations may be undertaken in the made ground deposits by light hydraulic excavators. Excavations in excess of 1.2mbgl will require side support.
Groundwater Management	Groundwater was encountered at 12.0mbgl at BH05 and at 10.90mbgl at BH6. Therefore, prudent contractors would allow for pumping to maintain dry working conditions, in foundation and service trench excavations.
Further Work	• Prepare Phase III Remediation Strategy Report. • Prepare Phase IV Validation / Completion Report.

APPENDIX A: SITE LAYOUT / GROUND INVESTIGATION PLAN



Notes:

— Site Boundary



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UNIT 1 DELTIC WAY
KNOWSLEY INDUSTRIAL ESTATE
LIVERPOOL
L33 7BA
0151 545 2750

Client:
BRANLEY HOMES

Project:
**The White House Club, Middleton Rd,
Crumpsall, Manchester M8 4JZ**

Title:
Site Location Map

Scale:
NTS

Issue:
01

Drawn by:
PR

Date:
January 2020

Project Number:
CCG-C-19-11308

Drawing Number:
01

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Notes:

— Site Boundary



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UNIT 1 DELTIC WAY
KNOWSLEY INDUSTRIAL ESTATE
LIVERPOOL
L33 7BA
0151 545 2750

Client:
BRANLEY HOMES

Project:
**The White House Club, Middleton Rd,
Crumpsall, Manchester M8 4JZ**

Title:
Aerial Photograph

Scale:
NTS

Issue:
01

Drawn by:
PR

Date:
January 2020

Project Number:
CCG-C-19-11308

**Drawing
Number:**
02

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Notes:

- Site Boundary
- Trial Pit
- Cable Percussive Borehole



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UNIT 1 DELTIC WAY
KNOWSLEY INDUSTRIAL ESTATE
LIVERPOOL
L33 7BA
0151 545 2750

Client:
BRANLEY HOMES

Project:
**The White House Club, Middleton Rd,
Crumpsall, Manchester M8 4JZ**

Title:
Site Investigation Plan

Scale: NTS	Issue: 01
Drawn by: PR	Date: January 2020
Project Number: CCG-C-19-11308	Drawing Number: 03

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Eastern area of site requiring action to mitigate against the risk of expose to contaminants of future residents



Notes:

Site Boundary

CBR via DCP



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KNOWSLEY INDUSTRIAL ESTATE
LIVERPOOL
L33 7BA
0151 545 2750

Client:
BRANLEY HOMES

Project:
The White House Club, Middleton Rd,
Crumpsall, Manchester M8 4JZ

Title:
CBR via DCP Investigation Plan and
Proposed Development Plan

Scale:
NTS

Issue:
01

Drawn by:
PR

Date:
January 2020

Project Number:
CCG-C-19-11308

**Drawing
Number:**
04

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All dimensions are to be checked on site. Any discrepancies are to be reported to the architect before work commences. On the whole, work is to be carried out in accordance with the 'Building Regulations' and 'Part A' of the 'Building Regulations'. Any discrepancies are to be reported to the architect before the relevant work commences. All structural components shown are indicative only. Details / calculations of structural members are to be provided by the structural engineer. This drawing is copyright.

Building Key

- Building to be demolished
- Outline application boundary
- Detailed application boundary

Key
A & B - Delivery drop off points (inc. wheel wash facilities)
FE - Fire Extinguishers & Klaxon (also placed in houses as development progresses)
FA - First Aid Point

Parking
Parking and speed restrictions must be adhered to at all times and all parking / maneuvering must be done in a safe manner, with minimal risk to other users and neighbours.

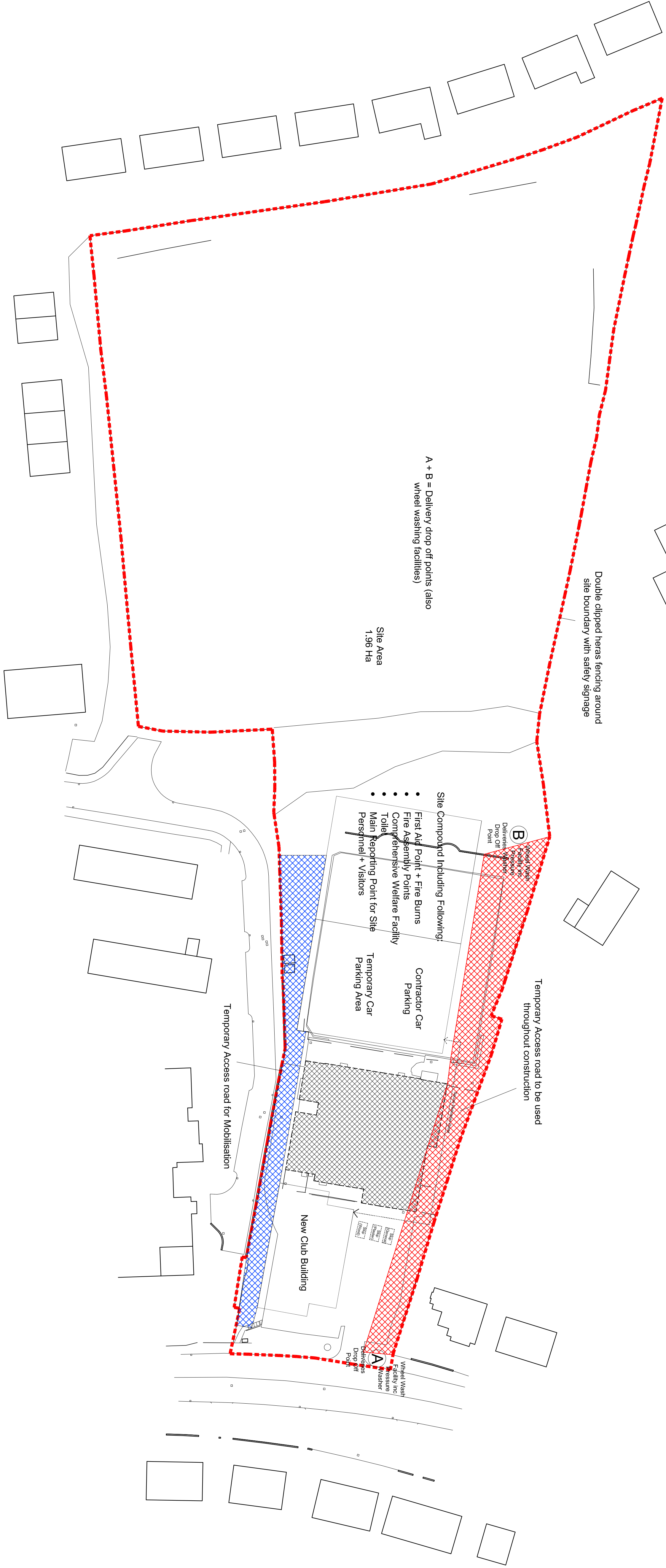
Loading
All loading / unloading of plant or machinery must take place within the site with the assistance of a qualified banksmen where necessary.

Site Personnel
All site personnel (on first visit) and visitors must report to the site manager in the site office to sign in / receive inductions

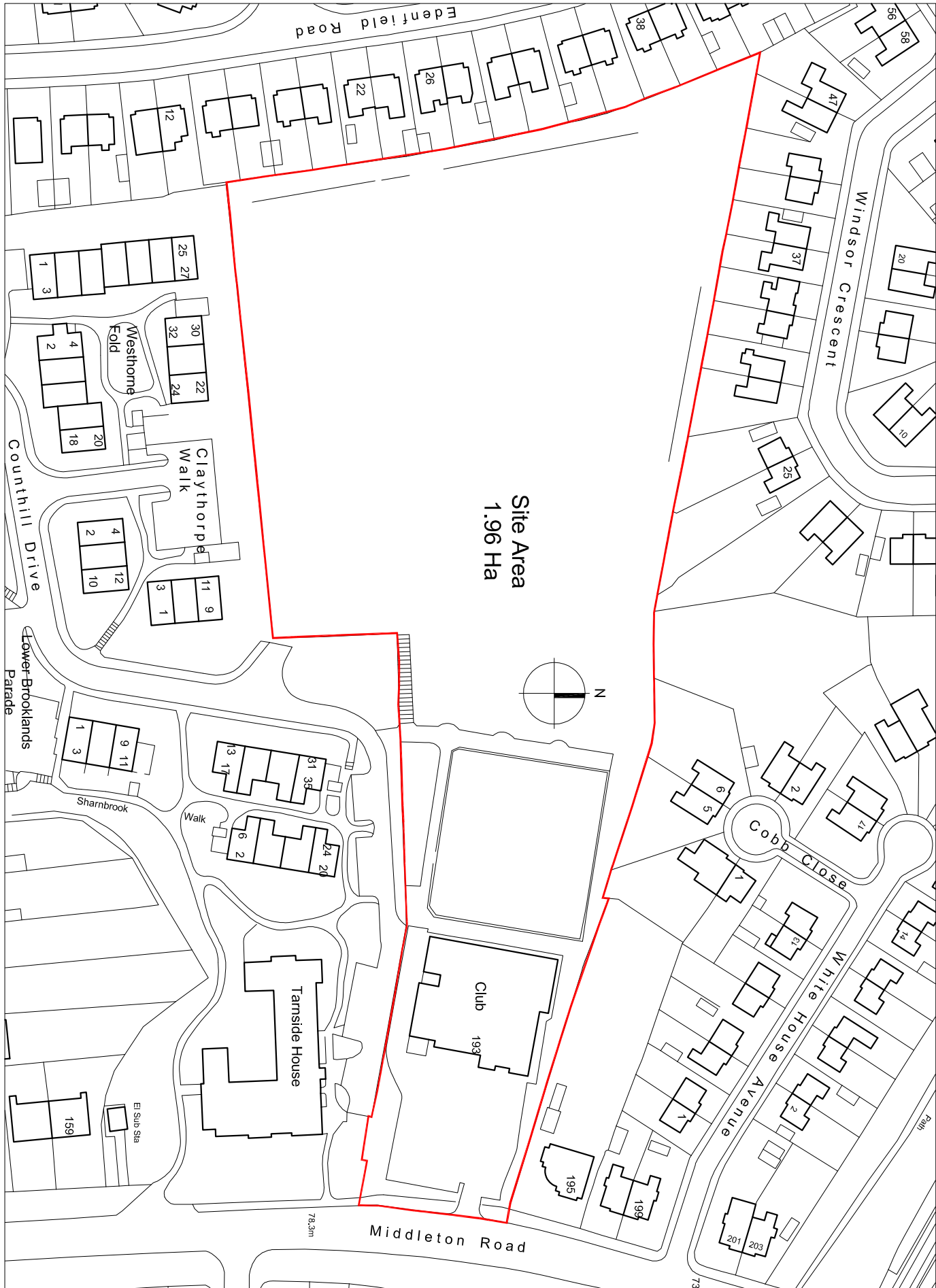
Working Hours
Mon-Thurs - 7:30am - 4:00pm
Fri - 7:30am - 3:00pm
Saturday - 9:00am-1:00pm
Sunday/BH - No work permitted

Deliveries
To be made via principal contractor's site compound and transported to work areas in manageable loads

Construction Management Plan (Planning Purposes)



Existing Site Plan - 1:500



Existing Site Plan - 1:1250



Tel : 0161 848 7263
Email: mail@graysarchitecture.co.uk
Client: Dappa Homes Ltd

Project: Whitehouse Club, Middleton, Crumpsall, M8 4JZ

Drawing Title: Construction Management Plan

Scale: 1:500 / 1:1250 @ A1
Date: April 2019

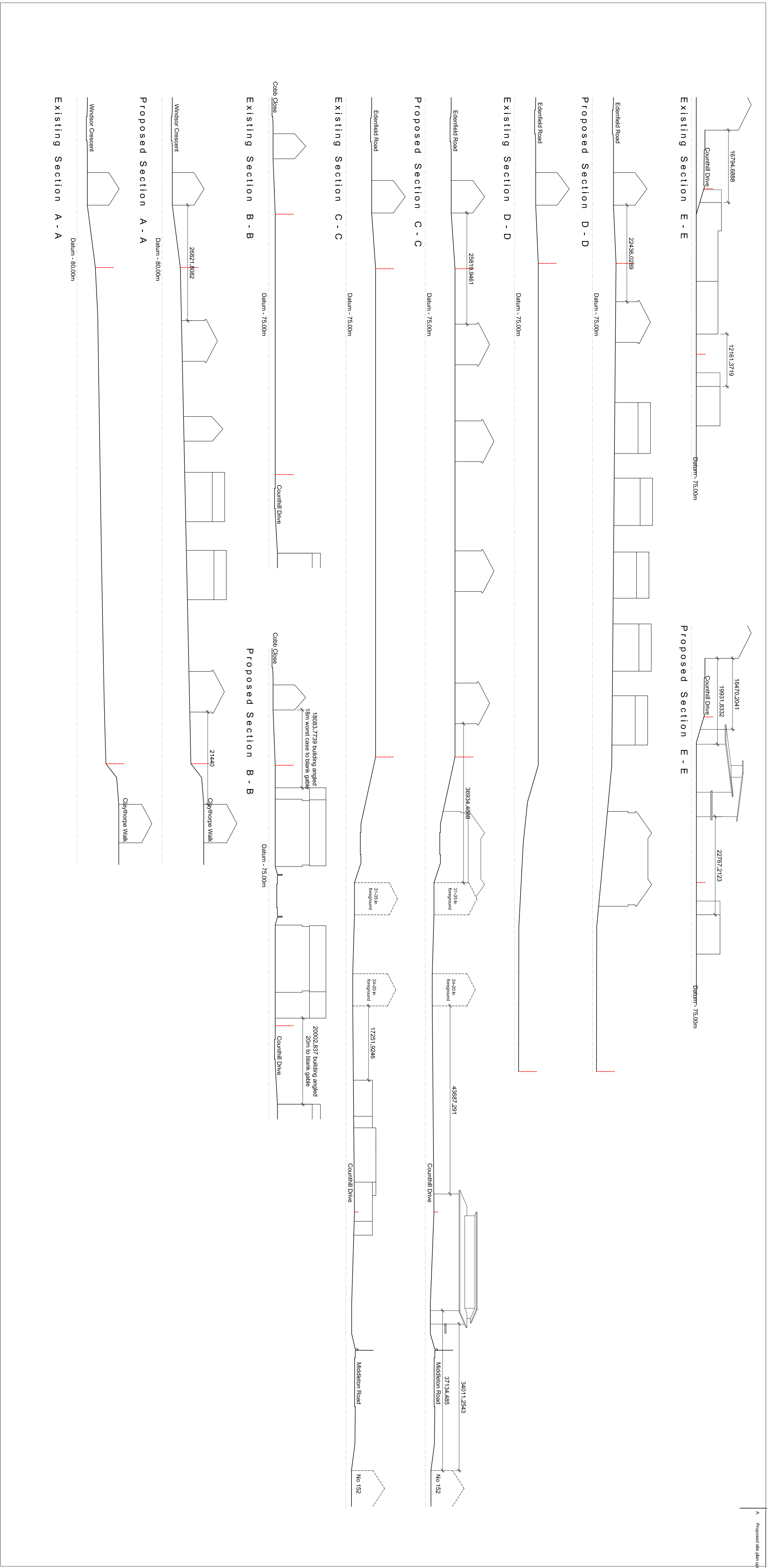
Drawing No: 4050 / 006
Revision: -

This drawing is to be used in conjunction with all relevant consultants and specialist drawings / documents, any discrepancies are to be reported to the Architect before the stipulated work commences. Do not scale from this drawing.

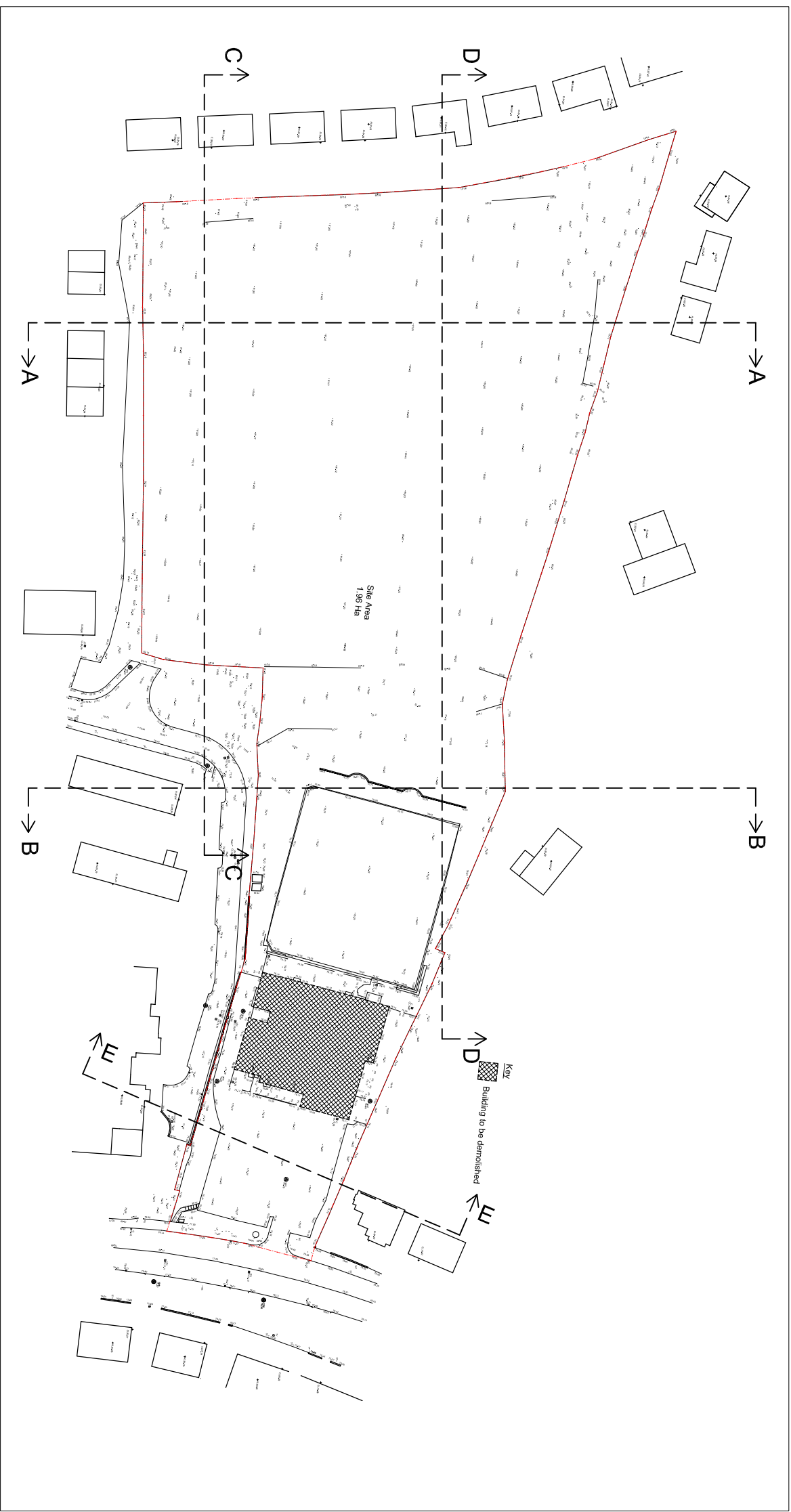
All dimensions are to be checked on site, any discrepancies are to be reported to the Architect before work commences. Do not scale from this drawing.

This drawing is copy/typ.

A Proposed site plan update



Existing Key - 1:1250



Existing Key - 1:1250



Proposed Key - 1:1250

Tel : 0161 848 7263
e-mail: mail@graysarchitecture.co.uk
Northwood House (N1)
Greenwood Business Centre
Manchester, M15 4QH

Dappa Homes Ltd

Project:
Whitehouse Club, Middleton, Crumpsall,
M8 4JZ

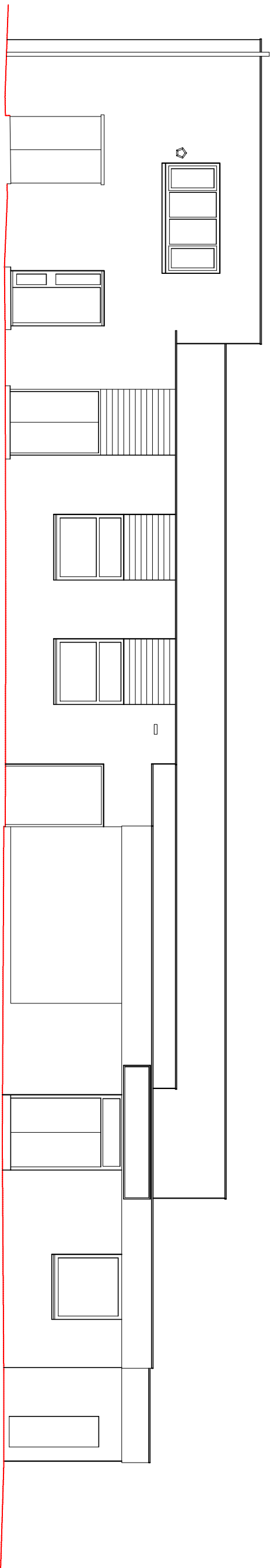
Existing & Proposed Site Sections

Scale: _____ Date: _____

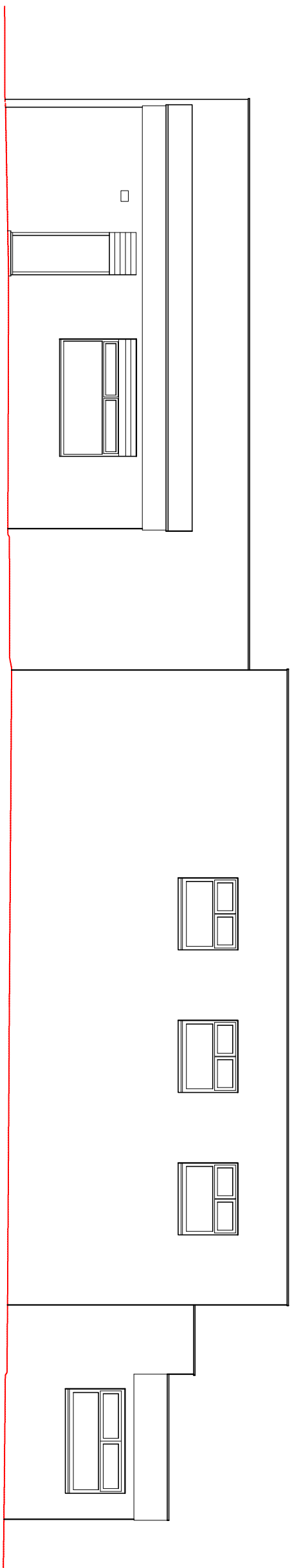
1:500 / 1:1250 @ A1 November 2018

Drawing No.	Revision
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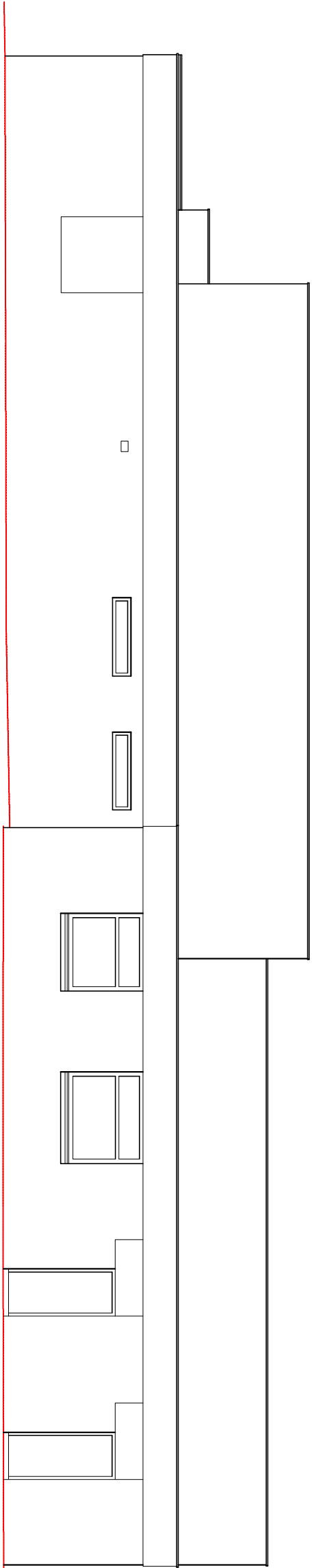
4050 / 005



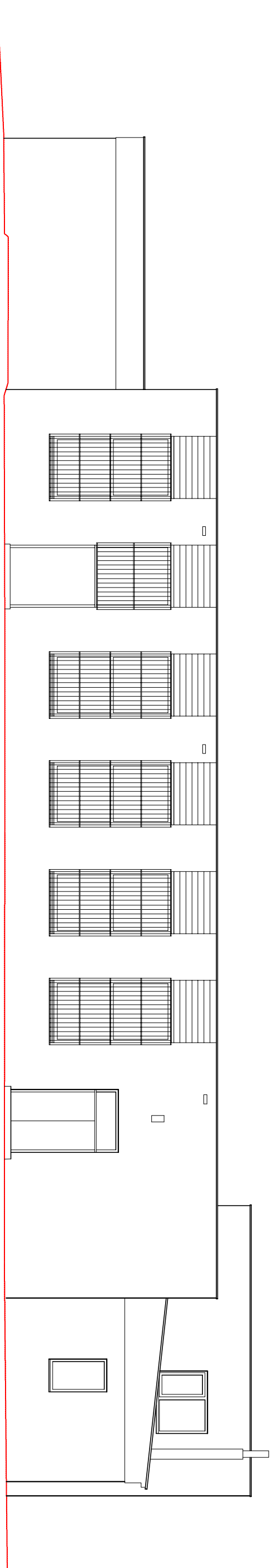
FRONT ELEVATION



SIDE ELEVATION



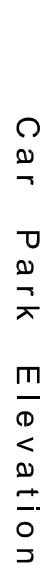
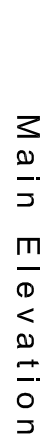
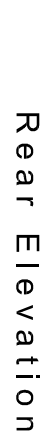
SIDE ELEVATION



REAR ELEVATION

All structural components shown are indicative only. Details / calculations of structural members are to be provided by the Structural Engineer.

This drawing is copyright.



G/
Grays
Architecture
Limited

Tel : 0161 848 7263
e-mail: mail@grayarchitecture.co.uk

Client: Northwood House (N1)
Greenwood Business Centre
Manchester, M5 4QH

Dappa Homes Ltd

Project:

M8 4J2

Proposed Elevations - Club House

1:100 @ A1 March 2015

Drawing No.	Revision
-------------	----------

4050 / 120

APPENDIX B: SITE PHOTOGRAPHS



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	West view frontage of the White House Club
Photo Number:	1



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	East view rear of the White House Club
Photo Number:	2



Unit 1
Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	East view over the Bowling Green
Photo Number:	3



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Northwest view of the sloped elevation to the playing field
Photo Number:	4



Unit 1
Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	East view of the sloped elevation towards the White House Club and Bowling Green
Photo Number:	5



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA

e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	West view of the playing field showing bordering residential housing
Photo Number:	6



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	North view of the playing field
Photo Number:	7



Unit 1

Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	North view of the playing field
Photo Number:	8



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Southeast view of the playing field
Photo Number:	9



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Northwest view of the playing field
Photo Number:	10



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Southeast view of the playing field
Photo Number:	11



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Southeast view of the playing field showing heavily vegetated scrub
Photo Number:	12



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
w: www.ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Northeast view of playing field
Photo Number:	13



Unit 1



Deltic Way
Knowsley Industrial Estate
L33 7BA
e: enquiries@ccgeotechnical.co.uk
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Site	The White House Club
Job Number:	CCG-C-19-11308
Location:	Northeast view of playing field
Photo Number:	14

APPENDIX I: SAMPLING AND MONITORING METHODOLOGIES



SAMPLING, SAMPLE TRANSPORTATION, AND FIELD MONITORING PROTOCOLS

Soil, water and gas sampling and monitoring methodologies employed by **CC GEOTECHNICAL LTD** are presented hereunder.

SAMPLING OF SOIL FOR CHEMICAL ANALYSIS

Site soil samples are usually recovered during the course of intrusive site investigation by either sinking dynamic sampling boreholes or machine or manual excavation of trial pits.

Borehole equipment such as casings, sampling barrels and rods, along with hand tools such as trowels and spades are cleaned using deionised water between sample positions to avoid cross contamination.

Latex barrier gloves are changed after each sampling event.

Dynamic Sampling Boreholes

In this method of investigation samples are recovered in relatively undisturbed 1m long Perspex liners. Each liner is uniquely labelled with the Project Name / Project No / Borehole No / Depth / Date. The liner tubes are sealed by air tight caps fitted at each end, and are temporarily stored out of sunlight. Where possible, samples are immediately split, scanned by PID, logged and subsampled. In the event that splitting and logging on site is not practicable, then the liners are immediately transported to the laboratory where they are immediately split, scanned by PID, logged and subsampled.

Trial Pits

Samples are taken from the bucket of an excavator and placed in appropriate airtight containers. Each container is uniquely labelled with the Project No / Trial Pit No / Depth / Date. The samples are then immediately placed in a cool box chilled by ice packs, and the boxes are sealed for transportation to the chemical laboratory.

Sampling Containers

Containers used to store soil samples are selected dependant on the required analysis. The testing laboratory will be consulted should there be any doubt as to the correct sampling container. Typically, a minimum of 1nr 1kg plastic tub, 1nr 500g plastic tub, 1nr 250g amber glass jar and 2nr glass vials are taken at each sample depth. Samples held on site awaiting same day courier collection are stored at 4°C in a cool box. Only in circumstances where same day collection cannot be arranged are samples held overnight, in this event all samples are refrigerated at 4°C either on site (if a refrigerator is available) or at CC GEOTECHNICAL soil laboratory. Courier collection is then arranged for immediate pick up the following day.

Chain of Custody records

A Chain of Custody Record (CoC) is sent with each batch of samples submitted to the testing laboratory. A copy of the CoC is available for inspection by the client, their agents, or any requesting government authorities.

HEADSPACE ANALYSES

Duplicate subsamples of all soil samples selected for laboratory analysis, are taken for headspace analyses.

Headspace analysis is undertaken using a MiniRae 2000 Photo Ionisation Detector (PID). In the test method, an amber glass jar is half filled with soil, and the lid is sealed with aluminium foil secured by an elastic band. The jar and contents are agitated for 30 seconds and left for a minimum of 30 minutes out of direct sunlight for the headspace to achieve equilibrium. The PID then pierces the seal and the maximum reading is recorded. Prevailing weather conditions and ambient air temperature are also recorded.

The PID headspace results are recorded on the exploratory borehole or trial pit logs.

PID headspace data is then used to inform the chemical testing schedule for volatile soil analyses.

SAMPLING OF WATER FOR CHEMICAL ANALYSIS

Water is sampled from standpipes installed during borehole drilling. On completion of the construction of the standpipe, the installation is developed by removing up to 10 x the internal volume of the installation. The volume of water purged is recorded. The standpipe is then typically left for a week for hydraulic equilibrium to be restored.

Prior to sampling the standpipe, the depth to the water table, and the depth to the base of the standpipe are monitored using an electronic dipmeter. In circumstances where free phase product is suspected to be present, then an 'Interface Meter' is used to determine the free phase film thickness.

A minimum of 3 x the standpipe volume is then removed. The pH of the water is then monitored and the sample is taken when the change in pH between any two consecutive standpipe extracts is less than 10%. The volume of water removed is recorded.

A sample comprises of a minimum of 3 litres. Two litres are taken in amber glass bottles, and one litre in a plastic bottle.

To avoid cross-contamination one bailer is used per position.

The samples are uniquely labelled with Project Name / Project No / Borehole No / Depth / Date Sampled. They are placed in a cool box chilled by ice packs, and the containers are sealed for transportation to the laboratory.

Once the samples are received in the **CC GEOTECHNICAL LTD** laboratory, the samples are stored in a refrigerator and returned to the cool boxes once collected.

Water taken from the installations are taken back to the **CC GEOTECHNICAL LTD** laboratory and disposed.

Other data recorded in the sampling comprises:

- Volume of water removed during development of well
- Volume of water removed during purging of the well
- Results of on-site pH analyses
- Sample appearance – colour, suspended solids

MONITORING OF GAS

Prior to embarking on a gas-monitoring round, all equipment is checked for functionality and the calibration status is confirmed.

At the commencement of the monitoring round, the prevailing weather conditions, air temperature, barometric pressure and direction of movement of barometric pressure are recorded.

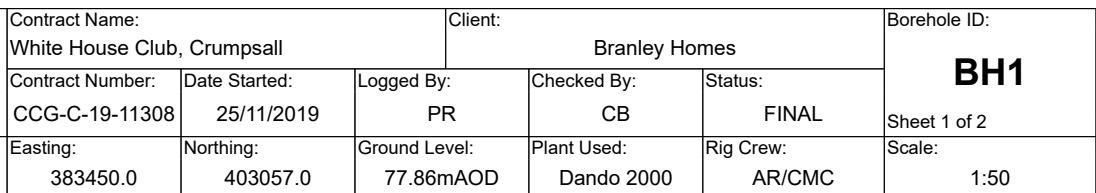
The flow meter is first attached to the standpipe valve, and the flow rate is measured (peak and steady flow) for 1 minute. The results are recorded in l.hr^{-1} . The flow meter tube is protected from the effects of wind by aligning the exhaust downwind.

Following measurement of borehole flow rate, the installation is left for a minimum of 10 minutes for the headspace to restore equilibrium.

Once the gas in the installation has regained equilibrium, the gas analyser is connected and monitoring commences. The peak and steady state readings for CH_4 , CO_2 , CO , H_2S and O_2 are recorded. The steady state is monitored for a minimum of one minute, and possibly up to a maximum of 10 minutes where fluctuations continue.

When the monitoring is complete, the depth to the water table, and the depth to the base of the well are monitored using an electronic dipmeter. In circumstances where free phase product is suspected to be present, then an 'Interface Meter' is used to determine the free phase film thickness.

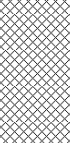
APPENDIX 5: CABLE PERCUSSIVE BORHOLE LOGS



Samples & In Situ Testing	Strata Details	Groundwater
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Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit					
Chiselling					Observation				Water Strikes					
									Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
									2.66			0		Monitored on the
														04/12/2019
From (m)	To (m)	Duration	Remarks		0.00 0.50 7.00	0.50 7.00 10.00	PLAIN SLOTTED PLAIN		CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com					

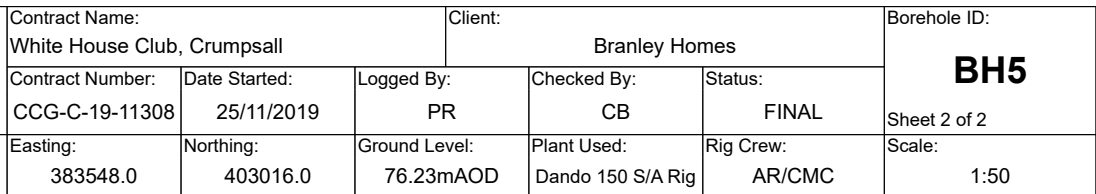
	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Borehole ID: BH1		
	Contract Number: CCG-C-19-11308	Date Started: 25/11/2019	Logged By: PR	Checked By: CB	Status: FINAL				
Cable Percussion Borehole Log	Easting: 383450.0	Northing: 403057.0	Ground Level: 77.86mAOD	Plant Used: Dando 2000	Rig Crew: AR/CMC	Scale: 1:50			
	Weather:		Termination:		SPT Hammer: N/R, Energy Ratio: N/R				
Samples & In Situ Testing			Strata Details					Groundwater	
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill/ Installation
			67.86	10.00		Stiff brown very sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium sub-angular sandstone End of Borehole at 10.00m		10	
								11	
								12	
								13	
								14	
								15	
								16	
								17	
								18	
								19	
Start & End of Shift Observations			Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
Chiselling					Water Strikes				
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Stratigraphy	Type	Dia (mm)	
				0.00	0.50	PLAIN			
				0.50	7.00	SLOTTED			
				7.00	10.00	PLAIN			
				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
				2.66			0		Monitored on the 04/12/2019
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com									

Weather:		Termination:				SPT Hammer: N/R, Energy Ratio: N/R						
Samples & In Situ Testing					Strata Details					Groundwater		
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description				Water Strike	Backfill/ Installation	
0.50	B		81.25	(0.30)		Grassed TOPSOIL						
				0.30		Soft becoming firm brown slightly sandy silty CLAY (Reworked)						
1.00	B	SPT(S) 1.20m, N=6 (1,2/1,2,1,2)	79.95	(1.30)						1		
1.50	B											
2.50	B	SPT(S) 2.00m, N=9 (2,2/2,3,2,2)	76.55	1.60		Loose becoming medium dense brown sandy clayey SILT (Reworked)				2		
3.50	B	SPT(S) 3.00m, N=8 (1,1/2,2,2,2)										
4.50	B	SPT(S) 4.00m, N=10 (2,1/2,3,2,3)	71.55	(3.40)						3		
6.00	B	SPT(S) 5.00m, N=10 (3,2/2,3,2,3)										
7.50	B	SPT(S) 6.50m, N=23 (3,4/5,5,7,6)	71.55	5.00		Medium dense becoming dense brown silty fine to medium grained SAND				4		
9.00	B	SPT(S) 8.00m, N=32 (4,7/7,9,8,8)										
9.00	B	SPT(S) 9.50m, N=34 (3,8/8,9,8,9)	71.55	10.00		End of Borehole at 10.00m				5		
Start & End of Shift Observations			Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit			
Chiselling					Installation				Water Strikes			
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Rose to (m)	Remarks
				0.00	0.50	PLAIN						
				0.50	7.00	SLOTTED						
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Weather:		Termination:				SPT Hammer: N/R, Energy Ratio: N/R							
Samples & In Situ Testing					Strata Details					Groundwater			
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description				Water Strike	Backfill/ Installation		
0.40	B	SPT(S) 1.20m, N=5 (1,1/2,1,1,1)	80.62	(0.50)		Grassed TOPSOIL				1			
1.00	B			0.50		Loose brown very clayey slightly gravelly fine to medium grained SAND. Gravel is fine subrounded sandstone. (Reworked)							
1.50	B												
2.50	B	SPT(S) 2.00m, N=5 (2,1/1,2,1,1)	77.72	(2.90)		2				2			
3.50	B	SPT(S) 3.00m, N=7 (1,2/2,1,2,2)		3.40		Loose becoming medium dense brown sandy slightly gravelly clayey SILT. Gravel is fine to medium sub-rounded sandstone (Possibly Reworked)							
4.50	B	SPT(S) 4.00m, N=7 (2,1/2,1,2,2)		(1.70)		4							
5.10	B	SPT(S) 5.00m, N=20 (2,4/4,5,5,6)	76.02	5.10		5				5			
6.00	B	SPT(S) 6.50m, N=32 (3,6/7,9,8,8)		(4.90)		6							
7.50	B	SPT(S) 8.00m, N=31 (4,6/8,7,8,8)				7							
9.00	B	SPT(S) 9.50m, N=35 (5,8/8,9,8,10)	8				9						
					End of Borehole at 10.00m				10				
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:				
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit				
Chiselling					Installation				Water Strikes				
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.co.uk													

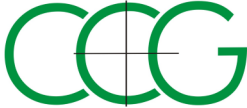
	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Borehole ID: BH4		
	Contract Number: CCG-C-19-11308	Date Started: 25/11/2019	Logged By: PR	Checked By: CB	Status: FINAL				
Cable Percussion Borehole Log	Easting: 383328.0	Northing: 403038.0	Ground Level: 81.50mAOD	Plant Used: Dando 2000	Rig Crew: AR/CMC	Scale: 1:50			
	Weather:		Termination:		SPT Hammer: N/R, Energy Ratio: N/R				
Samples & In Situ Testing			Strata Details					Groundwater	
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description		Water Strike	Backfill/ Installation
0.50	B		81.30	0.20		Grassed TOPSOIL			
				(0.50)		Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone (Reworked)			
1.00	B	SPT(S) 1.20m, N=6 (1,2/1,1,2,2)	80.80	0.70		Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-rounded sandstone (Reworked)		1	
1.50	B							2	
2.50	B	SPT(S) 2.00m, N=9 (2,2/2,3,2,2)		(2.80)				3	
3.50	B	SPT(S) 3.00m, N=11 (2,3/3,2,3,3)	78.00	3.50		Brown very silty fine grained SAND (Reworked)		4	
4.50	B	SPT(S) 4.00m, N=8 (1,2/1,3,2,2)		(0.90)				5	
6.00	B	SPT(S) 5.00m, N=24 (3,5/5,6,6,7)	77.10	4.40		Medium dense becoming dense brown slightly silty slightly gravelly fine to coarse grained SAND. Gravel is fine sub-rounded sandstone		6	
7.50	B	SPT(S) 6.50m, N=33 (4,6/8,9,8,8)		(5.60)				7	
9.00	B	SPT(S) 8.00m, N=35 (5,8/8,9,9,9)						8	
		SPT(S) 9.50m, N=38 (6,9/9,10,9,10)						9	
			71.50	10.00		End of Borehole at 10.00m		10	
Start & End of Shift Observations			Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
					Water Strikes				
					Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)
					3.45			0	
Chiselling					Installation				
From (m)	To (m)	Duration	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
				0.00	0.50	PLAIN			
				0.50	6.00	SLOTTED			
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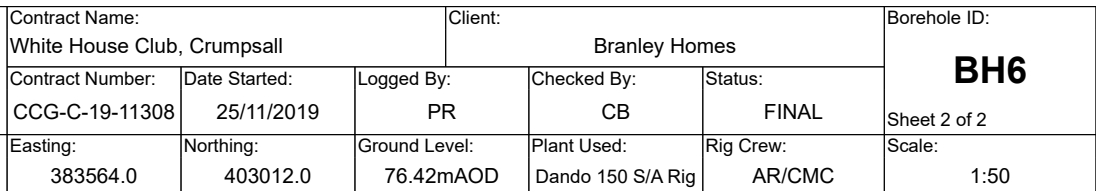
	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Borehole ID: BH5		
	Contract Number: CCG-C-19-11308	Date Started: 25/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 2			
	Cable Percussion Borehole Log	Easting: 383548.0	Northing: 403016.0	Ground Level: 76.23mAOD	Plant Used: Dando 150 S/A Rig	Rig Crew: AR/CMC	Scale: 1:50		
Weather:		Termination:			SPT Hammer: N/R, Energy Ratio: N/R				
Samples & In Situ Testing				Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation	
0.30	B		76.13	0.10		Tarmac (MADE GROUND)			
0.30	ES		76.03	0.20		Grey slightly gravelly, fine to medium sandy Sub-Base. Gravel is fine to coarse sub-angular. (MADE GROUND)			
0.50	B		75.83	0.40		Black fine to medium grained sandy (MADE GROUND)			
			75.58	0.65		Slightly clayey, gravelly fine to medium SAND. Gravel is fine to coarse composed of brick fragments (MADE GROUND)			
1.00	B	SPT(S)N=5 (2,1/1,1,1,2)	75.03	(0.55)		Loose brown fine to medium grained sand (MADE GROUND)	1		
1.50	B	SPT(S)N=8 (1,2/1,2,2,3)				Loose becoming medium dense brown slightly silty fine to medium grained SAND	2		
2.50	B	SPT(S)N=10 (1,3/2,3,2,3)		(3.50)			3		
3.50	B	SPT(S)N=12 (2,4/3,3,3,3)					4		
4.50	B		71.53	4.70		Stiff brown slightly sandy slightly gravelly silty CLAY of high undrained shear strength. Gravel is fine to medium subrounded sandstone	5		
5.00	U	HVP=125		(1.50)					
6.00	B		70.03	6.20		Very dense brownish grey slightly sandy SILT	6		
7.50	B	SPT(S)N=13 (1,3/3,4,3,3)		(2.30)			7		
9.00	B		67.73	8.50		Firm brownish grey slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone and mudstone.	8		
9.00 - 9.45	U	SPT(S)50 (6,12/50 for 165mm)				Failed U100	9		
Continued next sheet									
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit
14-11-2019	16:00	15.00	15.00	14.20					
Chiselling					Top (m)		Bottom (m)		Remarks
From (m)	To (m)	Duration	Remarks		0.00	0.50	PLAIN SLOTTED		
					0.50	13.00			
					Strike (m)		Casing (m)	Sealed (m)	Time (mins)
					4.76				0
					12.40				20
									12.00
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Samples & In Situ Testing	Strata Details	Groundwater
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Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)						
14-11-2019	16:00	15.00	15.00	14.20										
									1 hour hand excavating 1.20mbgl service avoidance pit					
									Water Strikes					
Chiselling					Top (m)	Blow (m)	Type	Obs (mm)	Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
From (m)	To (m)	Duration	Remarks		0.00	0.50	PLAIN		4.76			0		Monitored on
					0.50	13.00	SLOTTED		12.40			20	12.00	04/12/2019
									CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com					

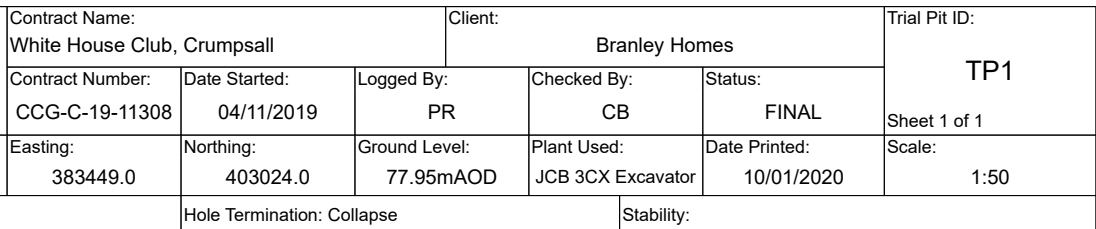
	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Borehole ID: BH6	
	Contract Number: CCG-C-19-11308	Date Started: 25/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 2		
	Cable Percussion Borehole Log	Easting: 383564.0	Northing: 403012.0	Ground Level: 76.42mAO	Plant Used: Dando 150 S/A Rig	Rig Crew: AR/CMC	Scale: 1:50	
Weather:		Termination:			SPT Hammer: N/R, Energy Ratio: N/R			
Samples & In Situ Testing				Strata Details				Groundwater
Depth	Sample ID	Test Result	Level (mAO)	Depth (m) (Thickness)	Legend	Strata Description	Water Strike	Backfill/Installation
0.40	B		76.32	0.10		Tarmac (MADE GROUND)		
0.40	ES		76.22	0.20		Grey slightly gravelly, fine to medium sandy Sub-Base. Gravel is fine to coarse sub-angular. (MADE GROUND)		
1.00	B	SPT(S)N=5 (2,1/1,2,1,1)	75.82	0.60		Black/dark brown slightly silty sandy GRAVEL. Gravel is fine to coarse angular to sub-angular brick (MADE GROUND)		
1.50	B		75.12	1.30		Brown slightly silty fine to medium grained sandy GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded varying lithologies (MADE GROUND)	1	
		SPT(S)N=7 (1,2/1,2,2,2)					2	
2.50	B			(3.20)		Loose becoming medium dense brown silty slightly gravelly fine to medium grained SAND. Gravel is fine sub-rounded sandstone		
		SPT(S)N=11 (2,2/2,3,3,3)					3	
3.50	B						4	
		SPT(S)N=11 (2,4/2,3,3,3)						
4.50	B		71.92	4.50		Stiff brown slightly sandy slightly gravelly silty CLAY with occasional pockets of sand. Gravel is fine to medium sub-rounded sandstone.		
5.00 - 5.45	U	HVP=110		(1.70)		Failed U100	5	
6.00	B		70.22	6.20		Dense light brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to coarse sub-angular sandstone		
		SPT(S)N=50 (2,6/50 for 255mm)		(1.00)			6	
7.00	B		69.22	7.20		Medium dense brown slightly gravelly silty clayey fine to medium grained SAND. Gravel is fine to medium sub-angular to sub-rounded sandstone		
		SPT(S)N=14 (2,2/3,3,4,4)		(2.00)			7	
9.00	B		67.22	9.20		Stiff brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium sub-rounded sandstone		
9.50 - 9.95	U	HVP=110				Failed U100	8	
9.80	B						9	
Continued next sheet								
Start & End of Shift Observations				Borehole Diameter		Casing Diameter		Remarks:
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)
11-11-2019	16:00	5.00	5.00					
12-11-2019	08:00	5.00	5.00					
12-11-2019	16:00	15.00	15.00	14.40				
				1 hour hand excavating 1.20mbgl service avoidance pit				
				Water Strikes				
				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)
				4.50			0	
				10.90			20	10.50
				Slight seepage				
Chiselling				CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com				
From (m)	To (m)	Duration	Remarks					



Samples & In Situ Testing	Strata Details	Groundwater
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Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth (m)	Dia (mm)	1 hour hand excavating 1.20mbgl service avoidance pit					
11-11-2019	16:00	5.00	5.00	14.40										
12-11-2019	08:00	5.00	5.00											
12-11-2019	16:00	15.00	15.00											
									Water Strikes					
Chiselling					Corrosion				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
From (m)	To (m)	Duration	Remarks					4.50			0		Slight seepage	
								10.90			20	10.50		
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APPENDIX 9: TRIAL PIT LOGS



Dimensions:

Final Depth: 4.00m

Length (m)

m

Width (m)

m

Orientation: °

Inclination: °

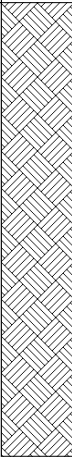
General Remarks:

Sides Collapse

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
4.00			0		Seepage

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	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Trial Pit ID: TP2																																																																																																																			
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1																																																																																																																				
Trial Pit Log	Easting: 383396.0	Northing: 403059.0	Ground Level: 80.35mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50																																																																																																																				
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Samples & In Situ Testing Strata Details Water Backfill <table><thead><tr><th>Depths</th><th>Sample ID</th><th>Test Result</th><th>Reduced Level</th><th>Depth (m) (Thickness)</th><th>Legend</th><th>Strata Description</th><th></th><th></th></tr></thead><tbody><tr><td>0.30</td><td>B</td><td rowspan="3">HVP=35kPa</td><td>80.05</td><td>(0.30) 0.30</td><td></td><td>TOP SOIL comprised of soils, grass, rootlets and plant matter</td><td></td><td></td></tr><tr><td>0.80</td><td>B</td><td>79.60</td><td>(0.45) 0.75</td><td></td><td>Black/brown silty SAND. Sand is fine to medium grained (MADE GROUND)</td><td></td><td></td></tr><tr><td>0.80</td><td>ES</td><td></td><td></td><td></td><td>Soft brown slightly sandy CLAY. Sand is fine to medium grained (MADE GROUND)</td><td>1</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(1.25)</td><td></td><td></td><td></td><td></td></tr><tr><td>2.00</td><td>B</td><td rowspan="2">HVP=30kPa</td><td>78.35</td><td>2.00</td><td></td><td>Soft brown slightly silty, fine to coarse sandy CLAY (MADE GROUND)</td><td>2</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(0.90)</td><td></td><td></td><td></td></tr><tr><td>2.90</td><td>B</td><td></td><td>77.45</td><td>2.90</td><td></td><td>Brown, slightly silty, slightly gravelly fine to medium SAND. Gravel is fine to medium sub-angular to angular sandstone and broken brick (MADE GROUND)</td><td>3</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(1.10)</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>76.35</td><td>4.00</td><td></td><td>End of Trial Pit at 4.00m</td><td>4</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td></td></tr></tbody></table>									Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			0.30	B	HVP=35kPa	80.05	(0.30) 0.30		TOP SOIL comprised of soils, grass, rootlets and plant matter			0.80	B	79.60	(0.45) 0.75		Black/brown silty SAND. Sand is fine to medium grained (MADE GROUND)			0.80	ES				Soft brown slightly sandy CLAY. Sand is fine to medium grained (MADE GROUND)	1						(1.25)					2.00	B	HVP=30kPa	78.35	2.00		Soft brown slightly silty, fine to coarse sandy CLAY (MADE GROUND)	2						(0.90)				2.90	B		77.45	2.90		Brown, slightly silty, slightly gravelly fine to medium SAND. Gravel is fine to medium sub-angular to angular sandstone and broken brick (MADE GROUND)	3						(1.10)								76.35	4.00		End of Trial Pit at 4.00m	4									5									6									7	
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Dimensions:					General Remarks:																																																																																																																					
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	Contract Name: White House Club, Crumpsall		Client: Branley Homes			Trial Pit ID: TP3														
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1														
Trial Pit Log	Easting: 383351.0	Northing: 403066.0	Ground Level: 80.27mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50														
	Weather:		Hole Termination: Collapse		Stability:															
Samples & In Situ Testing				Strata Details				Water	Backfill											
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description														
0.30 0.30	B ES	HVP=30kPa	80.07	0.20 (0.80)		TOP SOIL composed of grass, plant matter and rootlets Slightly silty slightly gravelly sandy loose CLAY. Sand is fine to coarse. Gravel is medium subangular (MADE GROUND)		1												
1.00	B	HVP=35kPa	79.27	1.00 (0.60)		Soft brown slightly sandy CLAY. Sand is fine to medium (MADE GROUND)														
1.60	B		78.67	1.60 (1.40)		Firm light brown slightly silty slightly clayey SAND. Sand is fine to medium containing a black argillaceous matter (MADE GROUND)		2												
3.00	B		77.27	3.00	----- End of Trial Pit at 3.00m -----		3													
								4												
								5												
								6												
								7												
Dimensions:					General Remarks:															
Final Depth: 3.00m					Side Collapse															
← Length (m) → m ↑ Width (m) ↓ m Orientation: ° ←																				
					Water Strikes															
					<table><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks						
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Inclination: °					CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com															



Contract Name:
White House Club, Crumpsall

Contract Number:
CCG-C-19-11308

Date Started:
04/11/2019

Logged By:
PR

Client:
Branley Homes

Checked By:
CB

Status:
FINAL

Trial Pit ID:
TP4

Sheet 1 of 1

Trial Pit Log

Easting:
383324.0

Northing:
403054.0

Ground Level:
80.40mAOD

Plant Used:
JCB 3CX Excavator

Date Printed:
10/01/2020

Scale:
1:50

Weather:

Hole Termination: Collapse

Stability:

Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.45	B		80.00	(0.40)		Grassed TOPSOIL	1	
0.80	ES		79.55	(0.45)		Brown slightly sandy slightly gravelly silty CLAY. Sand is fine to medium grained. Gravel is fine to medium sub-angular sandstone (Possibly Reworked)		
1.40	B		78.90	(0.65)		Reddish brown slightly gravelly sandy SILT. Gravel is fine to medium sub-angular sandstone (Possibly Reworked)		
3.00	B		77.40	(1.50)		Brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to medium sub-angular sandstone (Possibly Reworked)	2	
							3	
							4	
							5	
							6	
							7	
End of Trial Pit at 3.00m								

Dimensions:

Final Depth: 3.00m

Length (m)

m

Width (m)

m

Orientation: °

General Remarks:

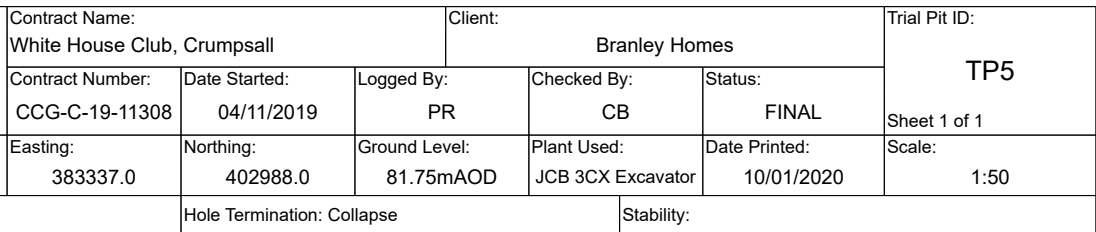
Side Collapse

Water Strikes

Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Inclination: °

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Dimensions:

Final Depth: 4.00m

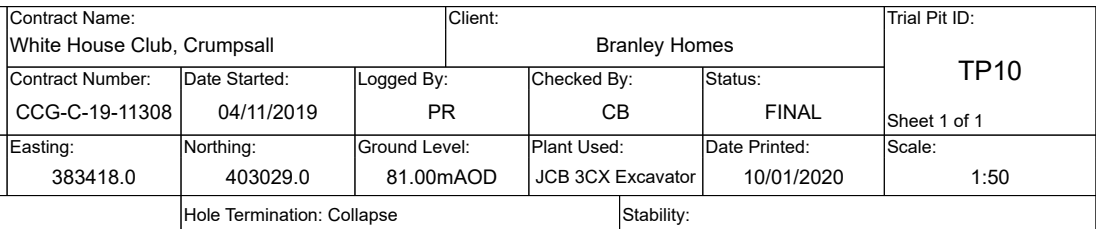
</

	Contract Name: White House Club, Crumpsall		Client: Branley Homes			Trial Pit ID: TP6																									
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1																									
Trial Pit Log	Easting: 383356.0	Northing: 403036.0	Ground Level: 80.99mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50																									
	Weather:		Hole Termination:		Stability:																										
Samples & In Situ Testing			Strata Details				Water	Backfill																							
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description																									
0.35	B		80.69	(0.30) 0.30		Grassed TOPSOIL																									
0.80	ES		80.14	(0.55) 0.85		Brown slightly silty slightly gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular sandstone (MADE GROUND)	1																								
1.30	B		79.79	(0.35) 1.20		Brown slightly gravelly slightly sandy silty CLAY. Sand is fine to medium grained. Gravel is fine to coarse sub-angular sandstone (MADE GROUND)																									
						Firm mottled fine to medium grained sandy CLAY (MADE GROUND)																									
				(1.70)			2																								
3.00	B		78.09	2.90		Brown slightly silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium sub-angular to sub-rounded coal/ash material and sandstone (MADE GROUND)	3																								
				(1.10)																											
			76.99	4.00		End of Trial Pit at 4.00m	4																								
							5																								
							6																								
							7																								
Dimensions:				General Remarks:																											
Final Depth: 4.00m				<table><tr><td colspan="6">Water Strikes</td></tr><tr><td>Strike (m)</td><td>Casing (m)</td><td>Sealed (m)</td><td>Time (mins)</td><td>Rose to (m)</td><td>Remarks</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6">CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com</td></tr></table>				Water Strikes						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks							CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com					
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Strike (m)	Casing (m)	Sealed (m)	Time (mins)					Rose to (m)	Remarks																						
CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com																															
← Length (m) → m ↑ Width (m) ↓ m Orientation: ° ←																															
Inclination: °																															

	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Trial Pit ID: TP7																																																																																											
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1																																																																																												
Trial Pit Log	Easting: 383365.0	Northing: 403000.0	Ground Level: 81.85mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50																																																																																												
	Weather:			Hole Termination: Collapse		Stability:																																																																																												
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Dimensions:					General Remarks:																																																																																													
Final Depth: 3.50m					Side Collapse																																																																																													
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Inclination: °					CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com																																																																																													

	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Trial Pit ID: TP8																																																																																																																																																	
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1																																																																																																																																																		
Trial Pit Log	Easting: 383373.0	Northing: 402979.0	Ground Level: 81.68mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50																																																																																																																																																		
	Weather:		Hole Termination:		Stability:																																																																																																																																																			
Samples & In Situ Testing Strata Details Water Backfill <table><thead><tr><th>Depths</th><th>Sample ID</th><th>Test Result</th><th>Reduced Level</th><th>Depth (m) (Thickness)</th><th>Legend</th><th>Strata Description</th><th></th><th></th></tr></thead><tbody><tr><td>0.35</td><td>B</td><td></td><td>81.38</td><td>(0.30)</td><td></td><td>Grassed TOPSOIL</td><td></td><td></td></tr><tr><td>0.50</td><td>ES</td><td></td><td></td><td>0.30</td><td></td><td></td><td></td><td></td></tr><tr><td>0.60</td><td>B</td><td></td><td>81.13</td><td>0.55</td><td></td><td>Black slightly sandy gravelly silty CLAY. Gravel is fine to medium sub-angular of varying lithologies (MADE GROUND)</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(0.65)</td><td></td><td>Light brown slightly sandy slightly gravelly silty CLAY with frequent pockets of sand (MADE GROUND)</td><td>1</td><td></td></tr><tr><td>1.30</td><td>B</td><td></td><td>80.48</td><td>1.20</td><td></td><td>Light brown slightly sandy slightly gravelly silty CLAY. (MADE GROUND)</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(0.60)</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>79.88</td><td>1.80</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(0.30)</td><td></td><td>Brown slightly sandy gravelly silty CLAY. Sand is fine to medium grained. Gravel is fine to medium sub-angular sandstone and broken brick (MADE GROUND)</td><td>2</td><td></td></tr><tr><td>2.20</td><td>B</td><td></td><td>79.58</td><td>2.10</td><td></td><td>Light brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to medium sub-angular sandstone</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>(1.90)</td><td></td><td></td><td>3</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>77.68</td><td>4.00</td><td></td><td>End of Trial Pit at 4.00m</td><td>4</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>5</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>7</td><td></td></tr></tbody></table>									Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			0.35	B		81.38	(0.30)		Grassed TOPSOIL			0.50	ES			0.30					0.60	B		81.13	0.55		Black slightly sandy gravelly silty CLAY. Gravel is fine to medium sub-angular of varying lithologies (MADE GROUND)							(0.65)		Light brown slightly sandy slightly gravelly silty CLAY with frequent pockets of sand (MADE GROUND)	1		1.30	B		80.48	1.20		Light brown slightly sandy slightly gravelly silty CLAY. (MADE GROUND)							(0.60)								79.88	1.80									(0.30)		Brown slightly sandy gravelly silty CLAY. Sand is fine to medium grained. Gravel is fine to medium sub-angular sandstone and broken brick (MADE GROUND)	2		2.20	B		79.58	2.10		Light brown slightly gravelly silty fine to medium grained SAND. Gravel is fine to medium sub-angular sandstone							(1.90)			3														77.68	4.00		End of Trial Pit at 4.00m	4									5									6									7	
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Final Depth: 4.00m ← Length (m) → m ↑ Width (m) ↓ m Orientation: ° ← Inclination: °					<table><thead><tr><th colspan="6">Water Strikes</th></tr><tr><th>Strike (m)</th><th>Casing (m)</th><th>Sealed (m)</th><th>Time (mins)</th><th>Rose to (m)</th><th>Remarks</th></tr></thead><tbody><tr><td>4.00</td><td></td><td></td><td>0</td><td></td><td>Seepage</td></tr></tbody></table> CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com				Water Strikes						Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	4.00			0		Seepage																																																																																																																														
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4.00			0		Seepage																																																																																																																																																			

	Contract Name: White House Club, Crumpsall			Client: Branley Homes			Trial Pit ID: TP9	
	Contract Number: CCG-C-19-11308	Date Started: 04/11/2019	Logged By: PR	Checked By: CB	Status: FINAL	Sheet 1 of 1		
Trial Pit Log	Easting: 383425.0	Northing: 402987.0	Ground Level: 82.48mAOD	Plant Used: JCB 3CX Excavator	Date Printed: 10/01/2020	Scale: 1:50		
	Weather:		Hole Termination:		Stability:			
Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.30	B ES		82.23	0.25		Grassed TOPSOIL		
0.30				(0.55)		Brown slightly silty slightly gravelly fine to coarse grained SAND. Gravel is fine to medium sub-angular sandstone and brick fragments (MADE GROUND)		
0.90	B		81.68	0.80		Dark brown slightly gravelly silty fine to coarse grained SAND. Gravel is fine to coarse sub-angular sandstone and brick fragments (MADE GROUND)	1	
1.40	B		81.18	1.30		Light brown slightly silty fine to medium grained SAND (MADE GROUND)	2	
				(1.20)				
2.50	B		79.98	2.50		Brown slightly gravelly slightly silty fine to medium grained SAND. Gravel is fine to medium angular brick (MADE GROUND)	3	
				(1.50)				
			78.48	4.00		End of Trial Pit at 4.00m	4	
							5	
							6	
							7	
Dimensions:				General Remarks:				
Final Depth: 4.00m								
← Length (m) → m ↑ Width (m) ↓ m Orientation: ° ←								
Inclination: °								
				Water Strikes				
				Strike (m)Casing (m)Sealed (m)Time (mins)Rose to (m)Remarks				
				CC GEOTECHNICAL LTD 0151 545 2750 www.ccgteotechnical.com				



Dimensions:

Final Depth: 3.50m

←

Length (m)

→

m

↑

Width (m)

↓

m

Orientation: °

←

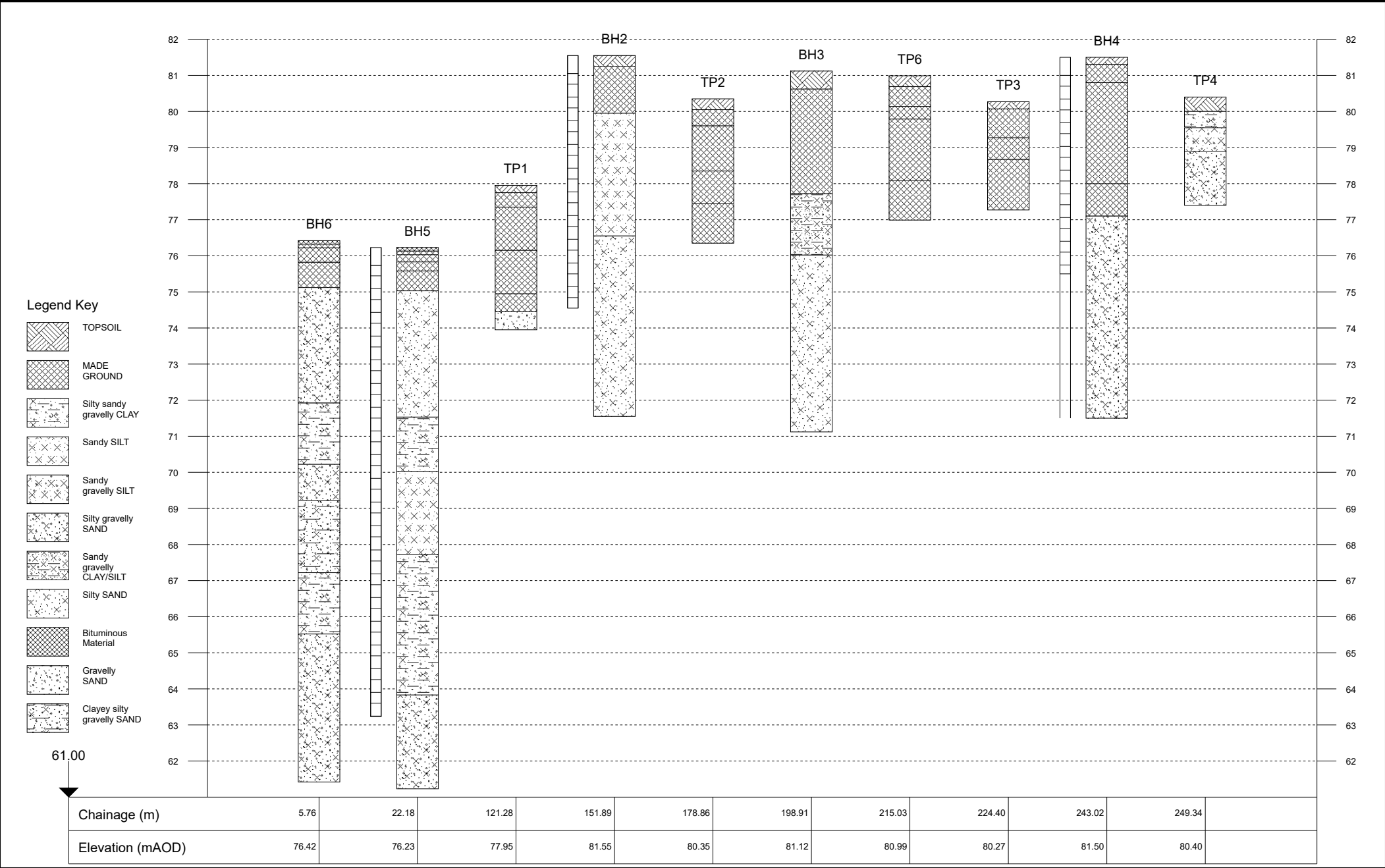
Inclination: °

General Remarks:

Sides Collapse

Water Strikes					
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
2.50			0		Seepage

CC GEOTECHNICAL LTD 0151 545 2750 www.ccgeotechnical.com



APPENDIX F: TRIAL PIT EXCAVATION PHOTOGRAPHS



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP1
Photo Number:	1



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA

e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP1
Photo Number:	2



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA

e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP2
Photo Number:	3



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP2
Photo Number:	4



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP2
Photo Number:	5



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP2
Photo Number:	6



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP3
Photo Number:	7



Unit 1



Deltic Way
 Knowsley Industrial Estate
 Merseyside
 L33 7BA
 e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP3
Photo Number:	8



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA

e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP3
Photo Number:	9



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP3
Photo Number:	10



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk



Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP4
Photo Number:	11



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP5
Photo Number:	12



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP5
Photo Number:	13



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP6
Photo Number:	14



Unit 1
Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP6
Photo Number:	15



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk



Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP7
Photo Number:	16



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP7
Photo Number:	17



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP7
Photo Number:	18



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA

e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP7
Photo Number:	19



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP8
Photo Number:	20



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP8
Photo Number:	21



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP8
Photo Number:	22



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP9
Photo Number:	23



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP9
Photo Number:	24



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP9
Photo Number:	25



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP10
Photo Number:	26



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP10
Photo Number:	27



Unit 1



Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP10
Photo Number:	28



Unit 1

Deltic Way
Knowsley Industrial Estate
Merseyside
L33 7BA
e: enquiries@ccgeotechnical.co.uk

Site	The White House Club
Job Number:	CCG-C-19-11308
Trial Pit Number:	TP10
Photo Number:	29

APPENDIX D: GAS AND GROUND WATER MONITORING DATA

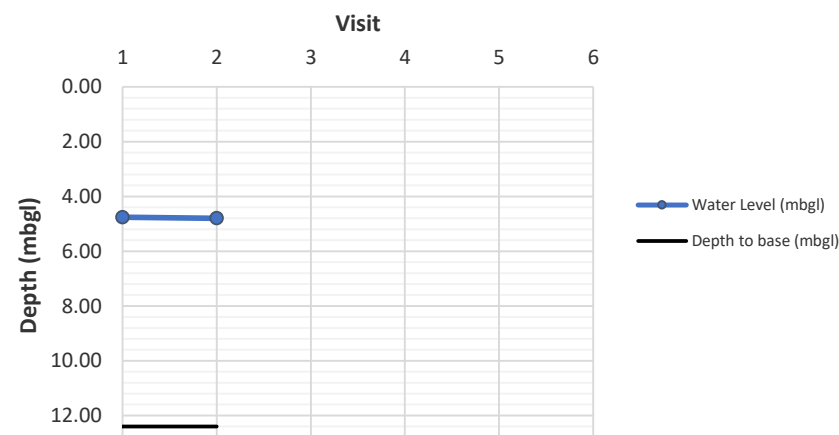
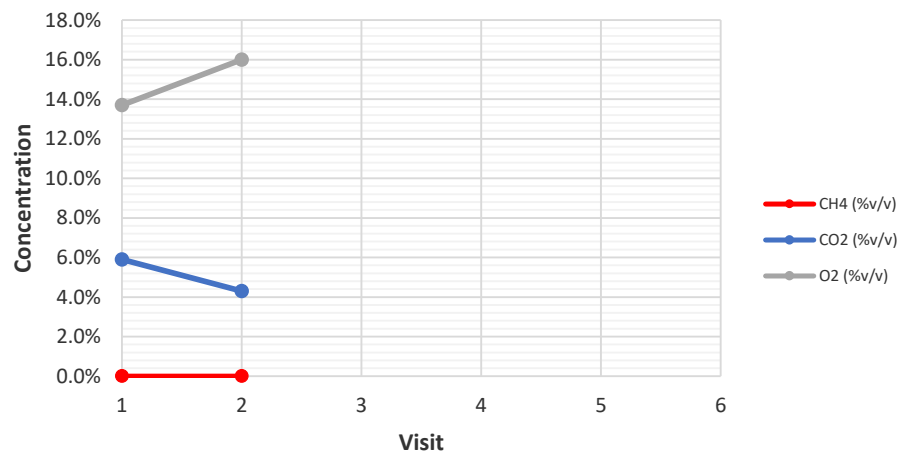
GROUND GAS AND GROUNDWATER MONITORING DATA

CC GEOTECHNICAL LIMITED
Consulting Geotechnical and Geoenvironmental Engineers



Job Number:	CCG-C-19-11308	Date of Installation:	25/11/2019
Site:	The White Hosue Club	Monitoring programme:	6 visits / 2 Month
Client:	Branley Homes	Instrument used:	GFM
Location Reference:	BH5	Logged by:	PR
Installation Depth (mbgl):	13.00	Approved by:	CB

Visit	Monitoring date	Weather Conditions					Monitoring Data							
		Cloud Cover	Wind Velocity	Precipitation	State of Ground	Atmospheric Pressure (mb)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	Flow Rate (l/hr)	H ₂ S (ppm)	CO (ppm)	Water Level (mbgl)	Depth to base (mbgl)
1	23/10/2019	CLEAR	LIGHT BREEZE	DRY	WET	1011	0.0%	5.9%	13.7%	<0.01	0.0	0.0	4.76	12.40
2	07/01/2020	OVERCAST	LIGHT BREEZE	DRY	WET	1105	0.0%	4.3%	16.0%	<0.01	0.0	0.0	4.80	12.40
3														
4														
5														
6														



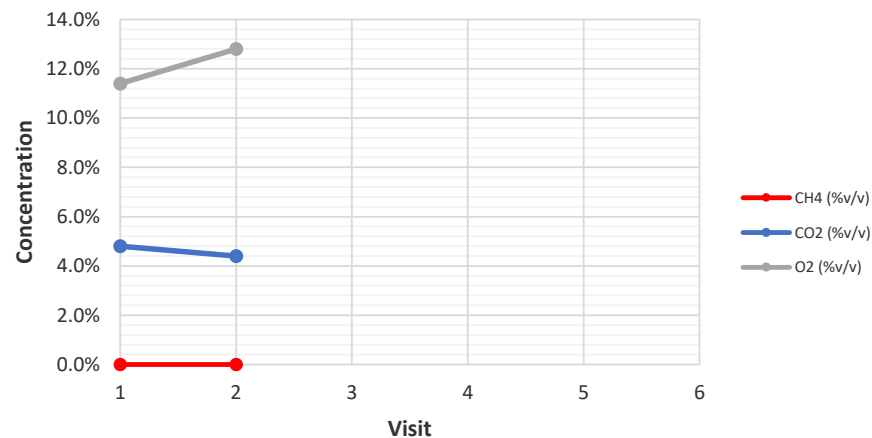
GROUND GAS AND GROUNDWATER MONITORING DATA

CC GEOTECHNICAL LIMITED
Consulting Geotechnical and Geoenvironmental Engineers



Job Number:	CCG-C-19-11308	Date of Installation:	25/11/2019
Site:	The White Hosue Club	Monitoring programme:	6 visits / 2 Month
Client:	Branley Homes	Instrument used:	GFM
Location Reference:	BH4	Logged by:	PR
Installation Depth (mbgl):	6.00	Approved by:	CB

Visit	Monitoring date	Weather Conditions					Monitoring Data							
		Cloud Cover	Wind Velocity	Precipitation	State of Ground	Atmospheric Pressure (mb)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	Flow Rate (l/hr)	H ₂ S (ppm)	CO (ppm)	Water Level (mbgl)	Depth to base (mbgl)
1	04/12/2019	CLEAR	LIGHT BREEZE	DRY	WET	1011	0.0%	4.8%	11.4%	<0.01	0.0	0.0	3.45	5.70
2	07/01/2019	OVERCAST	LIGHT BREEZE	DRY	WET	1105	0.0%	4.4%	12.8%	<0.01	0.0	0.0	3.36	5.70
3														
4														
5														
6														



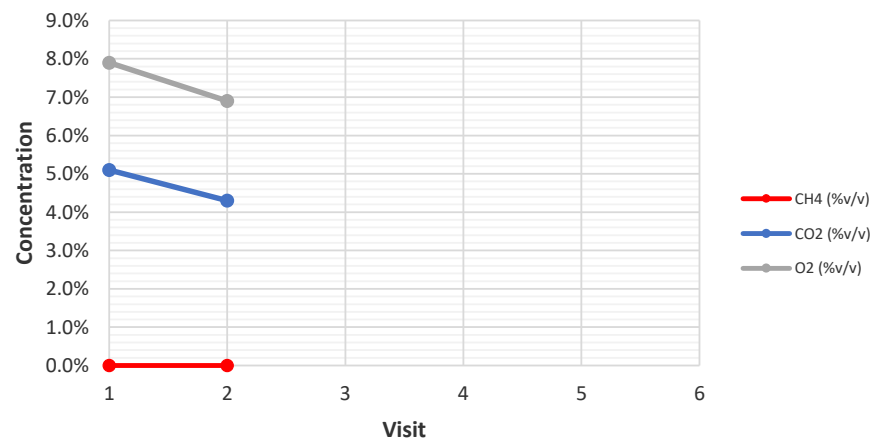
GROUND GAS AND GROUNDWATER MONITORING DATA

CC GEOTECHNICAL LIMITED
Consulting Geotechnical and Geoenvironmental Engineers



Job Number:	CCG-C-19-11308	Date of Installation:	25/11/2019
Site:	The White Hosue Club	Monitoring programme:	6 visits / 2 Month
Client:	Branley Homes	Instrument used:	GFM
Location Reference:	BH2	Logged by:	PR
Installation Depth (mbgl):	7.00	Approved by:	CB

Visit	Monitoring date	Weather Conditions					Monitoring Data							
		Cloud Cover	Wind Velocity	Precipitation	State of Ground	Atmospheric Pressure (mb)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	Flow Rate (l/hr)	H ₂ S (ppm)	CO (ppm)	Water Level (mbgl)	Depth to base (mbgl)
1	04/12/2019	CLEAR	LIGHT BREEZE	DRY	WET	1011	0.0%	5.1%	7.9%	<0.01	0.0	0.0	Dry	7.00
2	07/01/2020	OVERCAST	LIGHT BREEZE	DRY	WET	1105	0.0%	4.3%	6.9%	<0.01	0.0	0.0	Dry	7.00
3														
4														
5														
6														



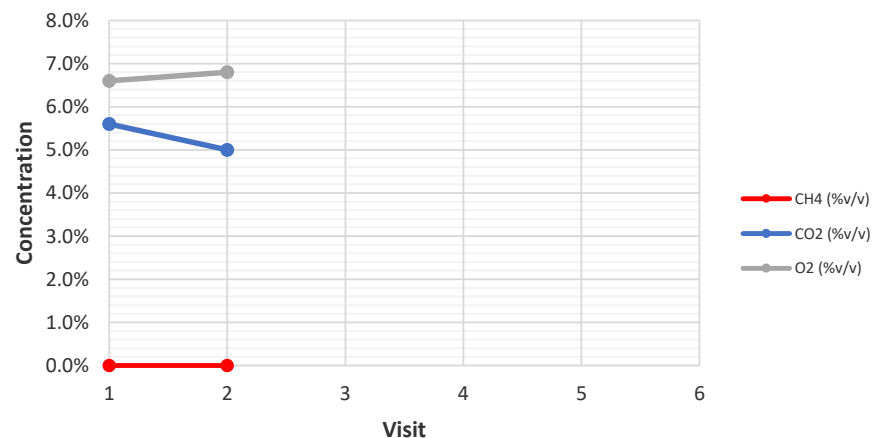
GROUND GAS AND GROUNDWATER MONITORING DATA

CC GEOTECHNICAL LIMITED
Consulting Geotechnical and Geoenvironmental Engineers



Job Number:	CCG-C-19-11308	Date of Installation:	25/11/2019
Site:	The White Hosue Club	Monitoring programme:	6 visits / 2 Month
Client:	Branley Homes	Instrument used:	GFM
Location Reference:	BH1	Logged by:	PR
Installation Depth (mbgl):	7.00	Approved by:	CB

Visit	Monitoring date	Weather Conditions					Monitoring Data							
		Cloud Cover	Wind Velocity	Precipitation	State of Ground	Atmospheric Pressure (mb)	CH ₄ (%v/v)	CO ₂ (%v/v)	O ₂ (%v/v)	Flow Rate (l/hr)	H ₂ S (ppm)	CO (ppm)	Water Level (mbgl)	Depth to base (mbgl)
1	04/12/2019	CLEAR	LIGHT BREEZE	DRY	WET	1011	0.0%	5.6%	6.6%	<0.01	0.0	0.0	2.66	6.60
2	07/01/2020	OVERCAST	LIGHT BREEZE	DRY	WET	1005	0.0%	5.0%	6.8%	<0.01	0.0	0.0	2.51	6.60
3														
4														
5														
6														



APPENDIX I : SOIL AND WATER CHEMICAL ANALYSIS DATA



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 19-25627

Issue: 1

Date of Issue: 13/11/2019

Contact: Peter Ryan

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q14-00045

Order No: Not Supplied

Customer Reference: 19-11308

Date Received: 06/11/2019

Date Approved: 13/11/2019

Details: Whitehouse Club, Crumpsall M8 4JZ

Approved by:

John Wilson, Quality Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 19-25627, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
188840	TP1 0.20	04/11/2019	06/11/2019	Sandy silty loam	
188841	TP2 0.80	04/11/2019	06/11/2019	Sandy clayey loam	
188842	TP3 0.30	04/11/2019	06/11/2019	Sandy loam	
188843	TP4 0.80	04/11/2019	06/11/2019	Sandy clayey loam	
188844	TP5 0.30	04/11/2019	06/11/2019	Silty clayey loam	
188845	TP6 0.80	04/11/2019	06/11/2019	Sandy clayey loam	
188846	TP7 0.60	04/11/2019	06/11/2019	Sandy clayey loam	
188847	TP8 0.50	04/11/2019	06/11/2019	Silty clayey loam	
188848	TP9 0.30	04/11/2019	06/11/2019	Sandy silty loam	
188849	TP10 0.70	04/11/2019	06/11/2019		

Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference	188840	188841	188842	188843	188844
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	TP1	TP2	TP3	TP4	TP5
Sample Depth (m)	0.20	0.80	0.30	0.80	0.30
Sampling Date	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	44.5	< 0.1	< 0.1	< 0.1	< 0.1
Description of Inert material removed	N		0	Stones	None	None	None	None
Metals								
Arsenic	M	mg/kg	1	12.1	9.2	15.0	10.3	7.9
Cadmium	M	mg/kg	0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	31.5	27.7	23.3	24.5	25.3
Copper	M	mg/kg	5	42.1	30.3	41.1	36.5	30.3
Lead	M	mg/kg	5	118	17.5	61.6	62.5	13.1
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	31.3	38.8	22.7	27.5	37.3
Selenium	M	mg/kg	1	1.4	< 1.0	1.1	< 1.0	< 1.0
Zinc	M	mg/kg	5	151	66.7	74.2	73.9	75.4
Anions								
Water Soluble Sulphate	M	g/l	0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02
Inorganics								
Free Cyanide	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	4	< 2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.20	0.04	< 0.02	0.02	0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Miscellaneous								
Acid Neutralisation Capacity	N	mol/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t
Loss On Ignition (450°C)	M	%	0.01	2.91	n/t	n/t	2.93	n/t
pH	M	pH units	0.1	8.2	7.9	7.3	5.8	6.5
Soil Organic Matter	U	%	0.1	1.3	0.9	1.0	1.9	0.7
Total Organic Carbon	N	%	0.01	2.2	n/t	n/t	1.7	n/t
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.3	0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	0.3	0.2	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	0.2	0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	0.2	0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	2.3	1.0	< 0.4	< 0.4	< 0.4
Total PAH (Including Coronene GC-FID)	N	mg/kg	2	2	n/t	n/t	< 2	n/t

Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference				188840	188841	188842	188843	188844
Customer Reference								
Sample ID								
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				TP1	TP2	TP3	TP4	TP5
Sample Depth (m)				0.20	0.80	0.30	0.80	0.30
Sampling Date				04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019
Determinand	Codes	Units	LOD					
BTEX								
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t
TPH CWG								
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	2.3	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	80.6	5.9	1.9	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	26.6	1.8	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	1.1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	82.4	14.0	4.7	1.8	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	45.5	11.4	4.3	2.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	239	33.1	10.9	3.8	< 1.0
Total Petroleum Hydrocarbons								
Mineral Oil	M	mg/kg	5	^ 280	n/t	n/t	^ < 5	n/t
PCB (ICES 7 congeners)								
PCB (Total of 7 Congeners)	M	mg/kg	0.03	< 0.03	n/t	n/t	< 0.03	n/t

Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference	188845	188846	188847	188848
Customer Reference				
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	TP6	TP7	TP8	TP9
Sample Depth (m)	0.80	0.60	0.50	0.30
Sampling Date	04/11/2019	04/11/2019	04/11/2019	04/11/2019

Determinand	Codes	Units	LOD				
Soil sample preparation parameters							
Material removed	N	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Description of Inert material removed	N		0	None	None	None	None
Metals							
Arsenic	M	mg/kg	1	8.4	9.9	6.4	3.3
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	26.4	29.2	24.2	7.6
Copper	M	mg/kg	5	28.4	27.3	29.6	15.2
Lead	M	mg/kg	5	11.9	13.5	11.0	15.3
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	27.1	37.9	33.0	5.6
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	1.3
Zinc	M	mg/kg	5	73.0	75.3	68.5	18.2
Anions							
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02
Inorganics							
Free Cyanide	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.02	0.02	0.04	0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	< 0.1	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	1.54	n/t	n/t
pH	M	pH units	0.1	5.9	6.9	8.6	5.3
Soil Organic Matter	U	%	0.1	0.8	0.7	0.8	3.7
Total Organic Carbon	N	%	0.01	n/t	0.51	n/t	n/t
Polyaromatic hydrocarbons							
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	0.3	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	0.5	< 0.4
Total PAH (Including Coronene GC-FID)	N	mg/kg	2	n/t	< 2	n/t	n/t

Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference				188845	188846	188847	188848
Customer Reference							
Sample ID							
Sample Type				SOIL	SOIL	SOIL	SOIL
Sample Location				TP6	TP7	TP8	TP9
Sample Depth (m)				0.80	0.60	0.50	0.30
Sampling Date				04/11/2019	04/11/2019	04/11/2019	04/11/2019
Determinand	Codes	Units	LOD				
BTEX							
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	< 0.01	n/t	n/t
TPH CWG							
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons							
Mineral Oil	M	mg/kg	5	n/t	^ < 5	n/t	n/t
PCB (ICES 7 congeners)							
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	< 0.03	n/t	n/t

Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference	188840	188845
Customer Reference		
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	TP1	TP6
Sample Depth (m)	0.20	0.80
Sampling Date	04/11/2019	04/11/2019

Determinand	Codes	Units	LOD		
Metals					
Arsenic 10:1 extract	N	ug/l	5	< 5	< 5
Boron 10:1 extract	N	ug/l	5	13	15
Cadmium 10:1 extract	N	ug/l	1	< 1	< 1
Calcium 10:1 extract	N	ug/l	100	5330	1640
Chromium 10:1 extract	N	ug/l	5	< 5	< 5
Copper 10:1 extract	N	ug/l	5	5	< 5
Lead 10:1 extract	N	ug/l	5	< 5	< 5
Magnesium 10:1 extract	N	ug/l	100	788	380
Mercury 10:1 extract	N	ug/l	0.1	< 0.1	< 0.1
Nickel 10:1 extract	N	ug/l	5	< 5	< 5
Selenium 10:1 extract	N	ug/l	5	< 5	< 5
Zinc 10:1 extract	N	ug/l	5	< 5	< 5
Anions					
Sulphate 10:1 extract	N	mg/l	1	< 1	< 1
Inorganics					
Free Cyanide	N	ug/l	5	< 5	< 5
Sulphide 10:1 extract	N	mg/l	0.1	0.1	0.2
Miscellaneous					
Dissolved organic carbon	N	mg/l	1.5	14.1	11.4
pH (10:1 extract)	N	pH units	0.1	7.6	6.5
Hardness (CaCO ₃)	N	mg/l CaCO ₃	0.1	17	6
Polyaromatic hydrocarbons					
Naphthalene Leachate GCMS	N	ug/l	0.01	0.01	0.02
Acenaphthylene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Acenaphthene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Fluorene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Phenanthrene Leachate GCMS	N	ug/l	0.01	0.01	0.01
Anthracene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Fluoranthene Leachate GCMS	N	ug/l	0.01	< 0.01	0.02
Pyrene Leachate GCMS	N	ug/l	0.01	< 0.01	0.01
Benzo (a) anthracene Leachate GCMS	N	ug/l	0.01	< 0.01	0.02
Chrysene Leachate GCMS	N	ug/l	0.01	< 0.01	0.01
Benzo (b) fluoranthene Leachate GCMS	N	ug/l	0.01	< 0.01	0.01
Benzo (k) fluoranthene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Benzo (a) pyrene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Indeno (1,2,3-cd) pyrene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Benzo(ghi)perylene Leachate GCMS	N	ug/l	0.01	< 0.01	< 0.01
Total PAH(16) Leachate GCMS	N	ug/l	0.01	0.09	0.14



Results Summary

Report No.: 19-25627, issue number 1

ELAB Reference	188840	188845
Customer Reference		
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	TP1	TP6
Sample Depth (m)	0.20	0.80
Sampling Date	04/11/2019	04/11/2019

Determinand	Codes	Units	LOD		
TPH CWG					
>C5-C6 Aliphatic in Leachate	N	ug/l	1	< 1.0	< 1.0
>C6-C8 Aliphatic in Leachate	N	ug/l	1	< 1.0	< 1.0
>C8-C10 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C10-C12 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C12-C16 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C16-C21 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C21-C35 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C35-C40 Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
Total (>C5-C40) Aliphatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C5-C7 Aromatic in Leachate	N	ug/l	1	< 1.0	< 1.0
>C7-C8 Aromatic in Leachate	N	ug/l	1	< 1.0	< 1.0
>C8-C10 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C10-C12 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C12-C16 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C16-C21 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C21-C35 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
>C35-C40 Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
Total (>C5-C40) Aromatic Leachate	N	ug/l	5	< 5.0	< 5.0
Total (>C5-C40) Ali/Aro Leachate	N	ug/l	5	< 5.0	< 5.0

Results Summary

Report No.: 19-25627, issue number 1

WAC Analysis								
Elab Ref:	188846					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	04/11/2019					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	TP7							
Depth (m)	0.6							
Site:	Whitehouse Club, Crumpsall M8 4JZ							
Determinand		Code	Units					
Total Organic Carbon		N	%		0.51	3	5	6
Loss on Ignition		M	%		1.5	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			6.9	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			10:1		10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l		mg/kg			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	< 0.005		< 0.05	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	< 0.001		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	0.006		0.06	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	4		42.50	1000	20000	50000
Total Dissolved Solids		N	28		277.00	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	9.800		98.00	500	800	1000
Leach Test Information								
pH		N	7.5					
Conductivity (uS/cm)		N	41					
Dry mass of test portion (g)			102.000					
Dry Matter (%)			87					
Moisture (%)			15					
Eluent Volume (ml)			968					

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 19-25627, issue number 1

WAC Analysis

Elab Ref:	188843					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	04/11/2019					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	TP4							
Depth (m)	0.8							
Site:	Whitehouse Club, Crumpsall M8 4JZ							
Determinand		Code	Units					
Total Organic Carbon		N	%		1.70	3	5	6
Loss on Ignition		M	%		2.9	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			5.8	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate

Eluate Analysis

			10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	< 0.005	< 0.05	0.5	2	25
Barium		N	< 0.005	< 0.05	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	< 0.005	< 0.05	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005	< 0.05	0.5	10	30
Nickel		N	< 0.001	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	< 0.005	< 0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	0.007	0.07	4	50	200
Chloride		N	5	53.00	800	15000	25000
Fluoride		N	< 5	< 10	10	150	500
Sulphate		N	4	38.30	1000	20000	50000
Total Dissolved Solids		N	27	268.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	9.350	93.00	500	800	1000

Leach Test Information

pH		N	7.8				
Conductivity (uS/cm)		N	40				
Dry mass of test portion (g)			102.000				
Dry Matter (%)			80				
Moisture (%)			25				
Eluent Volume (ml)			960				

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 19-25627, issue number 1

WAC Analysis								
Elab Ref:	188840					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	04/11/2019					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	TP1							
Depth (m)	0.2							
Site:	Whitehouse Club, Crumpsall M8 4JZ							
Determinand		Code	Units					
Total Organic Carbon		N	%		2.20	3	5	6
Loss on Ignition		M	%		2.9	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		280	500	--	--
Total (of 17) PAHs		N	mg/kg		2.0	100	--	--
pH		M			8.2	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			10:1		10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l		mg/kg			
Arsenic		N	0.006		0.06	0.5	2	25
Barium		N	0.014		0.14	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.010		0.10	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.001		< 0.05	0.4	10	40
Lead		N	0.004		< 0.05	0.5	10	50
Antimony		N	0.011		0.11	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	0.007		0.07	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	4		39.30	1000	20000	50000
Total Dissolved Solids		N	76		764.00	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	11.100		111.00	500	800	1000
Leach Test Information								
pH		N	8.4					
Conductivity (uS/cm)		N	114					
Dry mass of test portion (g)			102.000					
Dry Matter (%)			89					
Moisture (%)			12					
Eluent Volume (ml)			980					

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.



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Results Summary
Report No.: 19-25627, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
188840	0.20	TP1	Brown soil with stones,brick,clinker	No asbestos detected	n/t	n/t	n/t	n/t
188841	0.80	TP2	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188842	0.30	TP3	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188843	0.80	TP4	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188844	0.30	TP5	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188845	0.80	TP6	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188846	0.60	TP7	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188847	0.50	TP8	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
188848	0.30	TP9	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 19-25627, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Aliphatic hydrocarbons in leachate	N		11/11/2019		GC-FID
Aliphatic/Aromatic hydrocarbons in leach	N		12/11/2019		GC-FID
Aromatic hydrocarbons in leachate	N		11/11/2019		GC-FID
Carbon in leachates	N		12/11/2019		IR
Leachate cyanide 10:1 extract	N		08/11/2019		Colorimetry
Leachate sulphide 10:1 extract	N		07/11/2019		Colorimetry
pH of leachates	N		08/11/2019		Electromeric
Leachate metals 10:1 extract	N		08/11/2019	101	ICPMS
Free cyanide	N	As submitted sample	07/11/2019	107	Colorimetry
Sulphide	N	As submitted sample	07/11/2019	109	Colorimetry
Hexavalent chromium	N	As submitted sample	07/11/2019	110	Colorimetry
Acid Soluble Sulphate	U	Air dried sample	08/11/2019	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	07/11/2019	118	ICPMS
PAH (GC-FID)	M	As submitted sample	07/11/2019	133	GC-FID
PAHs and/or PCBs in leachates	N		11/11/2019	135	GC-MS
Water soluble anions	M	Air dried sample	07/11/2019	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	07/11/2019	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	07/11/2019	181	GC-MS
Low range Aliphatic hydrocarbons leachat	N		08/11/2019	200	GC-MS
Low range Aromatic hydrocarbons leachate	N		08/11/2019	200	GC-MS
Water soluble boron	N	Air dried sample	07/11/2019	202	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	07/11/2019	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	08/11/2019	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	07/11/2019	214	GC-FID
Anions in leachates	N		08/11/2019	270	Ion Chromatography
Soil organic matter	U	Air dried sample	08/11/2019	BS1377:P3	Titrimetry
Asbestos identification	U	Air dried sample	07/11/2019	PMAN	Microscopy
Water					
Hardness in soil leachates	N		11/11/2019	APHA	ICPMS
Leachate					
Arsenic	N		11/11/2019	101	ICPMS
Cadmium	N		11/11/2019	101	ICPMS
Chromium	N		11/11/2019	101	ICPMS
Lead	N		11/11/2019	101	ICPMS
Nickel	N		11/11/2019	101	ICPMS
Copper	N		11/11/2019	101	ICPMS
Zinc	N		11/11/2019	101	ICPMS
Mercury	N		11/11/2019	101	ICPMS
Selenium	N		11/11/2019	101	ICPMS
Antimony	N		11/11/2019	101	ICPMS
Barium	N		11/11/2019	101	ICPMS
Molybdenum	N		11/11/2019	101	ICPMS
pH Value	N		11/11/2019	113	Electrometric
Electrical Conductivity	N		11/11/2019	136	Probe
Dissolved Organic Carbon	N		11/11/2019	102	TOC analyser
Chloride	N		11/11/2019	131	Ion Chromatography
Fluoride	N		11/11/2019	131	Ion Chromatography
Sulphate	N		11/11/2019	131	Ion Chromatography
Total Dissolved Solids	N		11/11/2019	144	Gravimetric
Phenol index	N		11/11/2019	121	HPLC
WAC Solids analysis					
pH Value	M	Air dried sample	08/11/2019	113	Electrometric
Total Organic Carbon	N	Air dried sample	08/11/2019	210	IR
Loss on Ignition	M	Air dried sample	08/11/2019	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	08/11/2019	NEN 737	Electrometric
Total BTEX	M	As submitted sample	07/11/2019	181	GCMS
Mineral Oil	M	As submitted sample	07/11/2019	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	07/11/2019	120	GCMS
Total PAH (17)	N	As submitted sample	08/11/2019	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 19-25627, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 19-25980

Issue: 1

Date of Issue: 03/12/2019

Contact: Peter Ryan

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q14-00045

Order No: CCG-PO-19-11249

Customer Reference: CCG-C-19-11308

Date Received: 28/11/2019

Date Approved: 03/12/2019

Details: The White House Club - Crumpsall

Approved by:

Tim Reeve, Quality Officer

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 19-25980, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
190868	BH1 9.00	25/11/2019	28/11/2019	Sandy clayey loam	
190869	BH2 9.00	25/11/2019	28/11/2019	Loamy sand	
190870	BH3 7.50	25/11/2019	28/11/2019	Loamy sand	
190871	BH4 6.00	25/11/2019	28/11/2019	Loamy sand	
190872	BH5 13.50	25/11/2019	28/11/2019	Loamy sand	
190873	BH6 12.00	25/11/2019	28/11/2019	Loamy sand	
190874	BH5 0.30	25/11/2019	28/11/2019	Sandy loam	
190875	BH6 0.40	25/11/2019	28/11/2019	Sandy loam	

Results Summary

Report No.: 19-25980, issue number 1

ELAB Reference	190868	190869	190870	190871	190872
Customer Reference					
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	BH1	BH2	BH3	BH4	BH5
Sample Depth (m)	9.00	9.00	7.50	6.00	13.50
Sampling Date	25/11/2019	25/11/2019	25/11/2019	25/11/2019	25/11/2019

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Material removed	N	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Description of Inert material removed	N		0	None	None	None	None	None
Metals								
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t
Anions								
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	mg/l	20	42	< 20	< 20	< 20	< 20
Inorganics								
Free Cyanide	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t
Miscellaneous								
pH	M	pH units	0.1	8.7	7.9	7.9	6.6	8.8
Soil Organic Matter	U	%	0.1	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Benzo(b)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Benzo(a)pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t



Results Summary

Report No.: 19-25980, issue number 1

ELAB Reference				190868	190869	190870	190871	190872
Customer Reference								
Sample ID								
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				BH1	BH2	BH3	BH4	BH5
Sample Depth (m)				9.00	9.00	7.50	6.00	13.50
Sampling Date				25/11/2019	25/11/2019	25/11/2019	25/11/2019	25/11/2019
Determinand	Codes	Units	LOD					
BTEX								
Benzene	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t
Toluene	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t
Xylenes	N	ug/kg	10	n/t	n/t	n/t	n/t	n/t
TPH CWG								
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 19-25980, issue number 1

ELAB Reference	190873	190874	190875
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	BH6	BH5	BH6
Sample Depth (m)	12.00	0.30	0.40
Sampling Date	25/11/2019	25/11/2019	25/11/2019

Determinand	Codes	Units	LOD			
Soil sample preparation parameters						
Material removed	N	%	0.1	< 0.1	43.6	45.0
Description of Inert material removed	N		0	None	Stones,brick	Stones,brick
Metals						
Arsenic	M	mg/kg	1	n/t	40.5	33.5
Cadmium	M	mg/kg	0.5	n/t	2.7	2.9
Chromium	M	mg/kg	5	n/t	38.8	37.1
Copper	M	mg/kg	5	n/t	126	105
Lead	M	mg/kg	5	n/t	562	447
Mercury	M	mg/kg	0.5	n/t	8.3	6.6
Nickel	M	mg/kg	5	n/t	42.2	36.5
Selenium	M	mg/kg	1	n/t	< 1.0	< 1.0
Zinc	M	mg/kg	5	n/t	385	355
Anions						
Water Soluble Sulphate	M	g/l	0.02	n/t	< 0.02	< 0.02
Water Soluble Sulphate	M	mg/l	20	< 20	n/t	n/t
Inorganics						
Free Cyanide	N	mg/kg	1	n/t	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	n/t	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	n/t	< 2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	0.06	0.06
Water Soluble Boron	N	mg/kg	0.5	n/t	< 0.5	< 0.5
Miscellaneous						
pH	M	pH units	0.1	7.9	8.3	8.4
Soil Organic Matter	U	%	0.1	n/t	2.4	2.3
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	n/t	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	n/t	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	0.2	< 0.1
Fluorene	M	mg/kg	0.1	n/t	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	n/t	1.1	0.9
Anthracene	M	mg/kg	0.1	n/t	0.3	0.3
Fluoranthene	M	mg/kg	0.1	n/t	2.0	2.0
Pyrene	M	mg/kg	0.1	n/t	1.6	1.8
Benzo(a)anthracene	M	mg/kg	0.1	n/t	1.0	1.2
Chrysene	M	mg/kg	0.1	n/t	1.1	1.2
Benzo(b)fluoranthene	M	mg/kg	0.1	n/t	0.9	1.2
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	1.1	1.3
Benzo(a)pyrene	M	mg/kg	0.1	n/t	1.0	1.3
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	n/t	0.7	0.9
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	0.2	0.2
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	0.7	1.0
Total PAH(16)	M	mg/kg	0.4	n/t	12.0	13.3



Results Summary

Report No.: 19-25980, issue number 1

ELAB Reference	190873	190874	190875
Customer Reference			
Sample ID			
Sample Type	SOIL	SOIL	SOIL
Sample Location	BH6	BH5	BH6
Sample Depth (m)	12.00	0.30	0.40
Sampling Date	25/11/2019	25/11/2019	25/11/2019

Determinand	Codes	Units	LOD			
BTEX						
Benzene	N	ug/kg	10	n/t	< 10.0	< 10.0
Toluene	N	ug/kg	10	n/t	< 10.0	< 10.0
Ethylbenzene	N	ug/kg	10	n/t	< 10.0	< 10.0
Xylenes	N	ug/kg	10	n/t	< 10.0	< 10.0
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	n/t	< 1.0	1.3
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	n/t	1.0	12.2
>C35-C40 Aromatic	N	mg/kg	1	n/t	< 1.0	5.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	1.0	18.9



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Results Summary

Report No.: 19-25980, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
190874	0.30	BH5	Brown Sandy	No asbestos detected	n/t	n/t	n/t	n/t
190875	0.40	BH6	Brown Sandy Soil,Stones,Brick,Glas	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 19-25980, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Free cyanide	N	As submitted sample	02/12/2019	107	Colorimetry
Sulphide	N	As submitted sample	02/12/2019	109	Colorimetry
Hexavalent chromium	N	As submitted sample	02/12/2019	110	Colorimetry
pH	M	Air dried sample	02/12/2019	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	02/12/2019	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	29/11/2019	118	ICPMS
PAH (GC-FID)	M	As submitted sample	29/11/2019	133	GC-FID
Water soluble anions	M	Air dried sample	29/11/2019	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	02/12/2019	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	02/12/2019	181	GC-MS
BTEX in solids	N	As submitted sample	02/12/2019	181A	GC-MS
Water soluble boron	N	Air dried sample	29/11/2019	202	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	29/11/2019	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	03/12/2019	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	29/11/2019	214	GC-FID
Soil organic matter	U	Air dried sample	02/12/2019	BS1377:P3	Titrimetry
Asbestos identification	U	Air dried sample	03/12/2019	PMAN	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 19-25980, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
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S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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East Sussex
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info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 19-26110

Issue: 1

Date of Issue: 13/12/2019

Contact: Peter Ryan

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q14-00045

Order No: 11186

Customer Reference: CCG-C-19-11308

Date Received: 06/12/2019

Date Approved: 13/12/2019

Details: Whitehouse Club, Crumpsall M8 4JZ

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 19-26110, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
191617	BH5	04/12/2019	06/12/2019		
191618	BH1	04/12/2019	06/12/2019		



Results Summary

Report No.: 19-26110, issue number 1

ELAB Reference	191617
Customer Reference	
Sample ID	
Sample Type	WATER
Sample Location	BH5
Sample Depth (m)	
Sampling Date	04/12/2019

Determinand	Codes	Units	LOD	
Dissolved Metals				
Arsenic	U	ug/l	5	< 5
Boron	N	ug/l	5	40
Calcium	U	ug/l	100	109000
Cadmium	U	ug/l	1	< 1
Chromium	U	ug/l	5	< 5
Copper	U	ug/l	5	< 5
Mercury	U	ug/l	0.1	< 0.1
Magnesium	U	ug/l	100	6550
Nickel	U	ug/l	5	< 5
Lead	U	ug/l	1	< 1
Selenium	U	ug/l	5	< 5
Zinc	U	ug/l	5	< 5
Anions				
Sulphate	U	mg/l	0.5	85.0
Inorganics				
Free Cyanide	N	ug/l	5	< 5
Miscellaneous				
Dissolved organic carbon	U	mg/l	1.5	2.0
Hardness (CaCO ₃)	N	mg/l CaCO ₃	0.1	299
pH	U	pH units	0.1	6.5
Polyaromatic hydrocarbons				
Naphthalene GCMS	N	ug/l	0.01	0.24
Acenaphthylene GCMS	N	ug/l	0.01	0.03
Acenaphthene GCMS	N	ug/l	0.01	0.09
Fluorene GCMS	N	ug/l	0.01	0.17
Phenanthrene GCMS	N	ug/l	0.01	0.83
Anthracene GCMS	N	ug/l	0.01	0.20
Fluoranthene GCMS	N	ug/l	0.01	0.53
Pyrene GCMS	N	ug/l	0.01	0.54
Benzo (a) anthracene GCMS	N	ug/l	0.01	0.57
Chrysene GCMS	N	ug/l	0.01	0.30
Benzo (b) fluoranthene GCMS	N	ug/l	0.01	0.47
Benzo (k) fluoranthene GCMS	N	ug/l	0.01	0.20
Benzo (a) pyrene GCMS	N	ug/l	0.01	0.49
Indeno (1,2,3-cd) pyrene GCMS	N	ug/l	0.01	0.23
Dibenzo(a,h)anthracene GCMS	N	ug/l	0.01	0.10
Benzo(ghi)perylene GCMS	N	ug/l	0.01	0.39
Total PAH(16) GCMS	N	ug/l	0.01	5.38



Results Summary

Report No.: 19-26110, issue number 1

ELAB Reference	191617
Customer Reference	
Sample ID	
Sample Type	WATER
Sample Location	BH5
Sample Depth (m)	
Sampling Date	04/12/2019

Determinand	Codes	Units	LOD	
BTEX				
Benzene	N	ug/l	1	< 1.00
Toluene	N	ug/l	1	< 1.00
Ethylbenzene	N	ug/l	1	< 1.00
Xylenes	N	ug/l	1	< 1.00
MTBE	N	ug/l	1	< 1.00
TPH CWG				
>C5-C6 Aliphatic	N	ug/l	1	< 1.0
>C6-C8 Aliphatic	N	ug/l	1	< 1.0
>C8-C10 Aliphatic	N	ug/l	5	< 5.0
>C10-C12 Aliphatic	N	ug/l	5	< 5.0
>C12-C16 Aliphatic	N	ug/l	5	< 5.0
>C16-C21 Aliphatic	N	ug/l	5	8.1
>C21-C35 Aliphatic	N	ug/l	5	137
>C35-C40 Aliphatic	N	ug/l	5	54.7
Total (>C5-C40) Aliphatic	N	ug/l	5	200
>C5-C7 Aromatic	N	ug/l	1	< 1.0
>C7-C8 Aromatic	N	ug/l	1	< 1.0
>C8-C10 Aromatic	N	ug/l	5	< 5.0
>C10-C12 Aromatic	N	ug/l	5	< 5.0
>C12-C16 Aromatic	N	ug/l	5	21.2
>C16-C21 Aromatic	N	ug/l	5	34.2
>C21-C35 Aromatic	N	ug/l	5	177
>C35-C40 Aromatic	N	ug/l	5	162
Total (>C5-C40) Aromatic	N	ug/l	5	393
Total (>C5-C40) Ali/Aro	N	ug/l	5	593

Method Summary

Report No.: 19-26110, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Water					
Aliphatic/Aromatic hydrocarbons in water	N		13/12/2019		GC-FID
Aromatic hydrocarbons in water	N		13/12/2019		GC-FID
Dissolved metals by ICP in waters	U		10/12/2019	101	ICPMS
Dissolved organic carbon	U		10/12/2019	102	IR
pH of waters	U		09/12/2019	113	Electromeric
Cyanide in waters	N		10/12/2019	132	Colorimetry
PAHs and/or PCBs in waters	N		12/12/2019	135	GC-MS
BTEX in waters	N		09/12/2019	200	GC-MS
Low range Aliphatic hydrocarbons water	N		09/12/2019	200	GC-MS
Low range Aromatic hydrocarbons water	N		09/12/2019	200	GC-MS
Aliphatic hydrocarbons in water	N		12/12/2019	215	GC-FID
Aromatic hydrocarbons in water	N		12/12/2019	215	GC-FID
Anions	U		10/12/2019	270	Ion Chromatography
Hardness in waters	N		12/12/2019	APHA	ICPMS

Tests marked N are not UKAS accredited



Report Information

Report No.: 19-26110, issue number 1

Key

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I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
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>	means "greater than"

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Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage

APPENDIX L: SOIL ENGINEERING TEST DATA

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www.ccgeotechnical.com



LABORATORY REPORT

CONTRACT NUMBER: CCG-C-19-11308

CONTRACT TITLE: THE WHITE HOUSE CLUB, CRUMPSALL

CLIENT: BRANLEY HOMES

DATE RECEIVED: 27/11/19
DATE COMMENCED: 27/11/19
DATE COMPLETED: 09/12/19
REPORT DATE: 10/12/19

Test Description	Qty
Particle Size Distribution BS 1377-2:1990 (a)	16
Determination of Liquid & Plastic Limits BS 1377-2:1990 (a)	7
Determination of Moisture Content BS 1377-2:1990 (a)	9
Unconsolidated Undrained Triaxial Compression Test BS 1377-7:1990 (a)	1

Notes: Observations and interpretations are not accredited by UKAS
All testing undertaken at laboratory permanent facilities
denotes non-accredited test
a denotes UKAS accredited test
s denotes test undertaken by approved subcontractor

Sample and sample information supplied by client
Test results only relate to the samples tested

This report is issued in accordance with the requirements of the United Kingdom Accreditation Services and EN ISO/IEC 17025:2005. The results reported herein relate only to the material supplied to the laboratory. This report shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories: Chris Bolan (Managing Director) – Daniel Kerfoot (Laboratory Manager)

SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH1	B	1.00	1.00	-	-	-	-	-	-	-	-	-	Y	Brown very silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone. (MADE GROUND) (BS1377Pt2:9.2)
BH1	B	2.50	2.50	26	-	-	-	-	-	-	-	-	Y	Dark brown very clayey gravelly fine to medium grained SAND. Gravel is fine to medium subangular ceramic and brick. (MADE GROUND) (BS1377Pt2:3.2,9.2)
BH1	B	3.50	3.50	-	-	-	-	-	-	-	-	-	Y	Brown very gravelly slightly silty fine to medium grained SAND. Gravel is fine to coarse subangular to subrounded sandstone and mudstone. (BS1377Pt2:9.2)
BH1	U100	5.00	5.45	15	-	-	80*	-	-	-	-	-	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine subangular sandstone. (BS1377Pt2:3.2)
BH1	B	6.00	6.00	25	-	-	-	31	16	15	98	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine subangular sandstone. (BS1377Pt2:3.2,4.4,5)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
 CLIENT: BRANLEY HOMES

DATE: 04.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH1



CC Geotechnical Ltd
Tel: 0151 545 2750
e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH1

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown very silty slightly gravelly fine to medium grained SAND

Depth, m

1.00

Specimen Reference

Specimen Depth

m

Sample Type

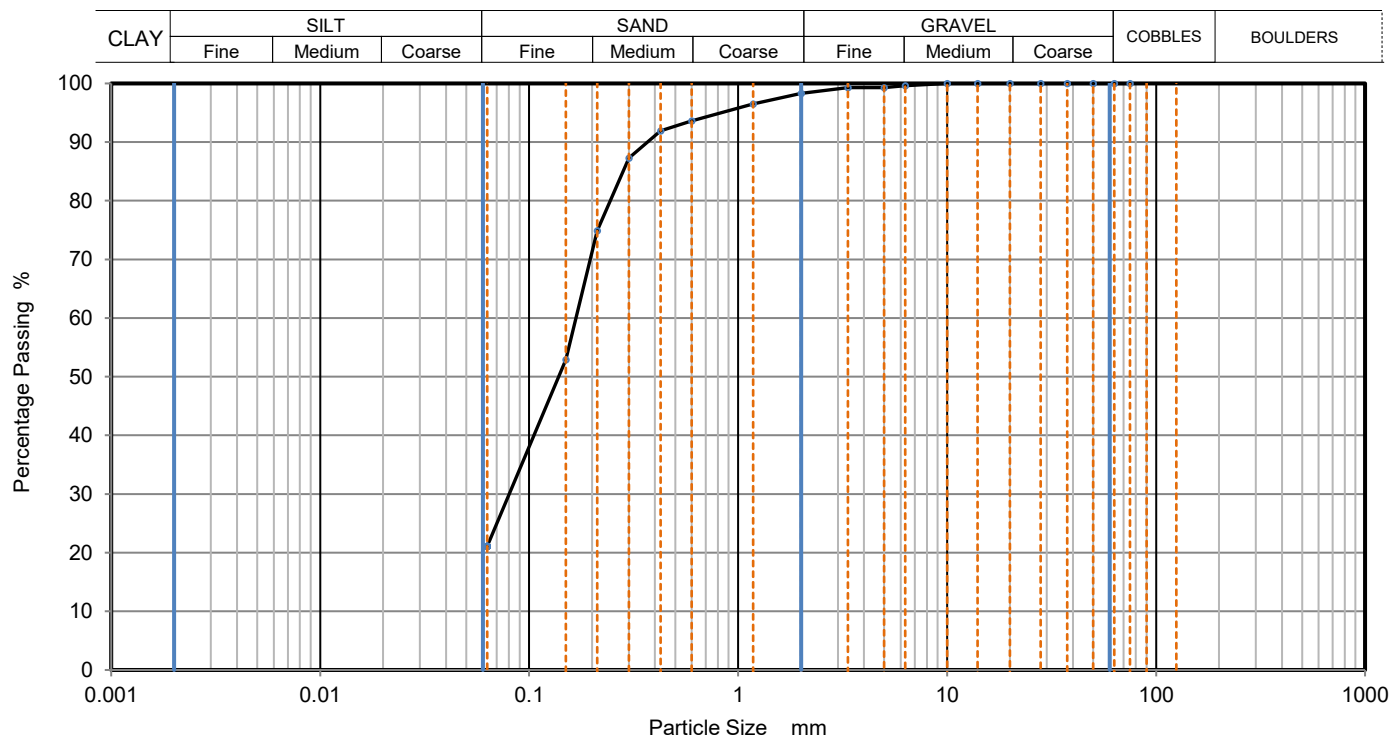
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019120414



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	98		
1.18	97		
0.6	94		
0.425	92		
0.3	87		
0.212	75		
0.15	53		
0.063	21		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	77
Fines <0.063mm	21

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

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator

Checked

Approved

Sheet printed

Fig 1

04/12/2019 15:26

Sheet

JE

DK

DK



CC Geotechnical Ltd
Tel: 0151 545 2750
e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH1

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Dark brown very clayey gravelly fine to medium grained SAND

Depth, m

2.50

Specimen Reference

Specimen Depth

m

Sample Type

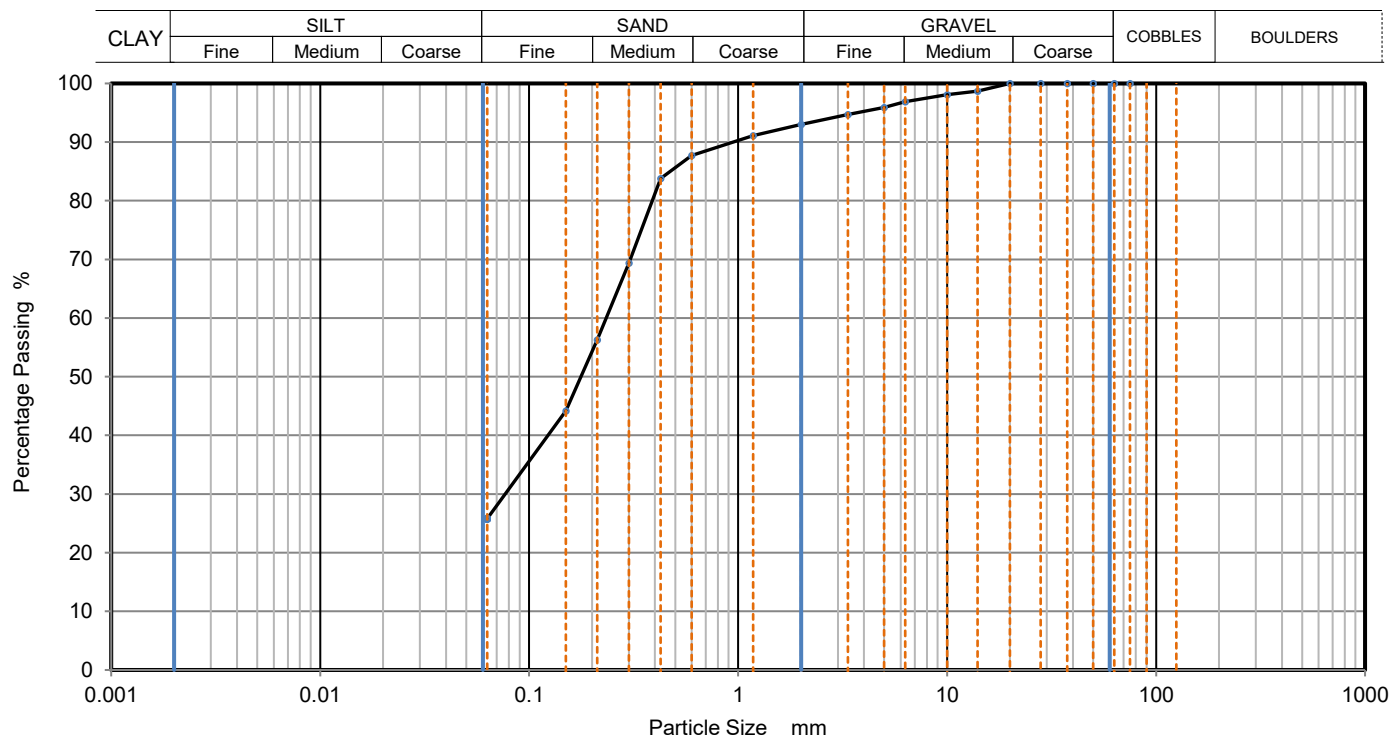
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019120415



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
3.35	95		
2	93		
1.18	91		
0.6	88		
0.425	84		
0.3	69		
0.212	56		
0.15	44		
0.063	26		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	67
Fines <0.063mm	26

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

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1 Sheet
JE	DK	DK	04/12/2019 15:26	



CC Geotechnical Ltd
Tel: 0151 545 2750
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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH1

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown very gravelly slightly silty fine to medium grained SAND

Depth, m

3.50

Specimen Reference

Specimen Depth

m

Sample Type

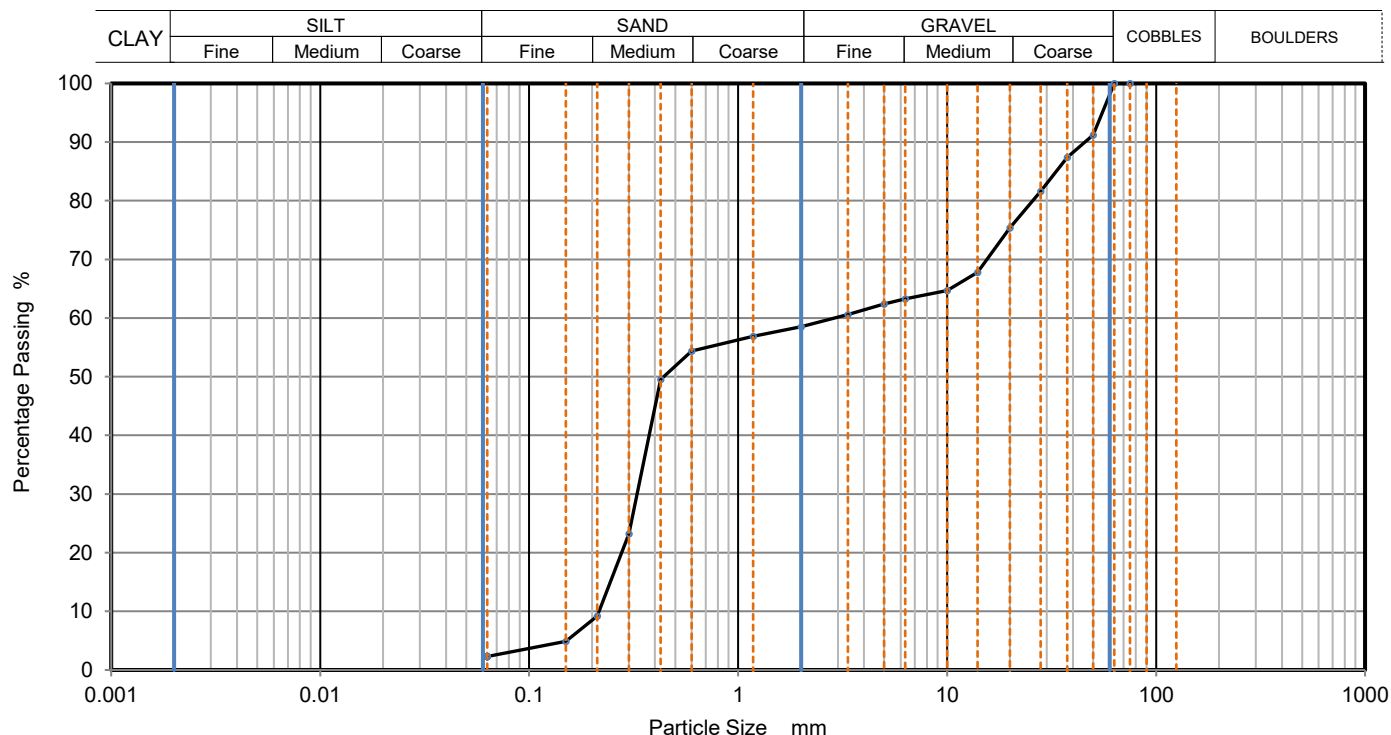
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019120416



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	91		
37.5	87		
28	82		
20	75		
14	68		
10	65		
6.3	63		
5	62		
3.35	61		
2	59		
1.18	57		
0.6	54		
0.425	50		
0.3	23		
0.212	9		
0.15	5		
0.063	2		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	42
Sand	56
Fines <0.063mm	2

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	14
Curvature Coefficient	0.17

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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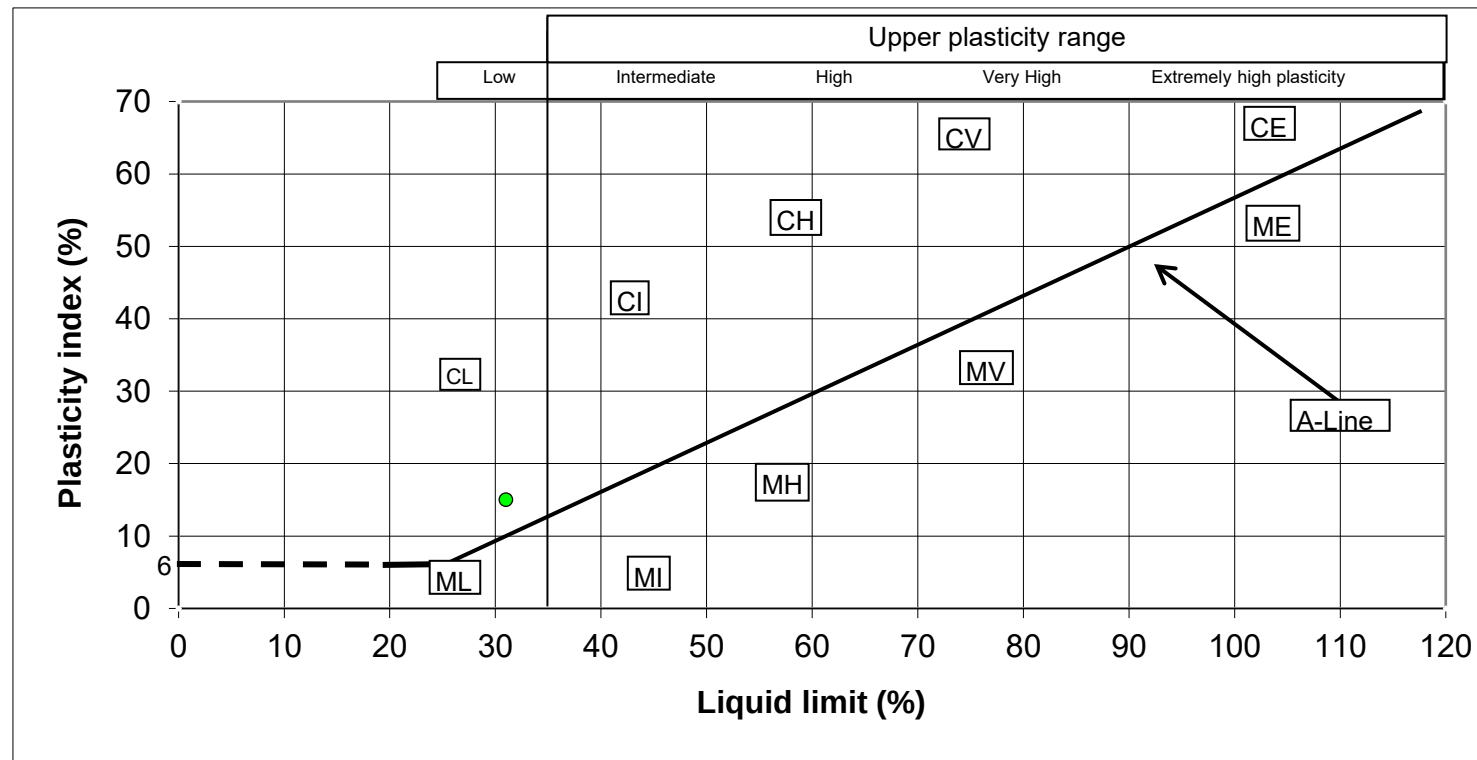
DK



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH1	6.00	31.0	15.0



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CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH2	B	1.50	1.50	44	-	-	-	35	19	16	97	CL / CI	Y	Brown slightly sandy silty CLAY. (BS1377Pt2:3.2,4.4,5)
BH2	B	3.50	3.50	-	-	-	-	-	-	-	-	-	Y	Brown sandy clayey SILT. (BS1377Pt2:9.2)
BH2	B	7.50	7.50	-	-	-	-	-	-	-	-	-	Y	Brown silty fine to medium grained SAND. (BS1377Pt2:9.2)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
CLIENT: BRANLEY HOMES

DATE: 04.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH2



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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH2

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen
Description

Brown sandy clayey SILT

Depth, m

3.50

Specimen
Reference

Specimen
Depth

m

Sample Type

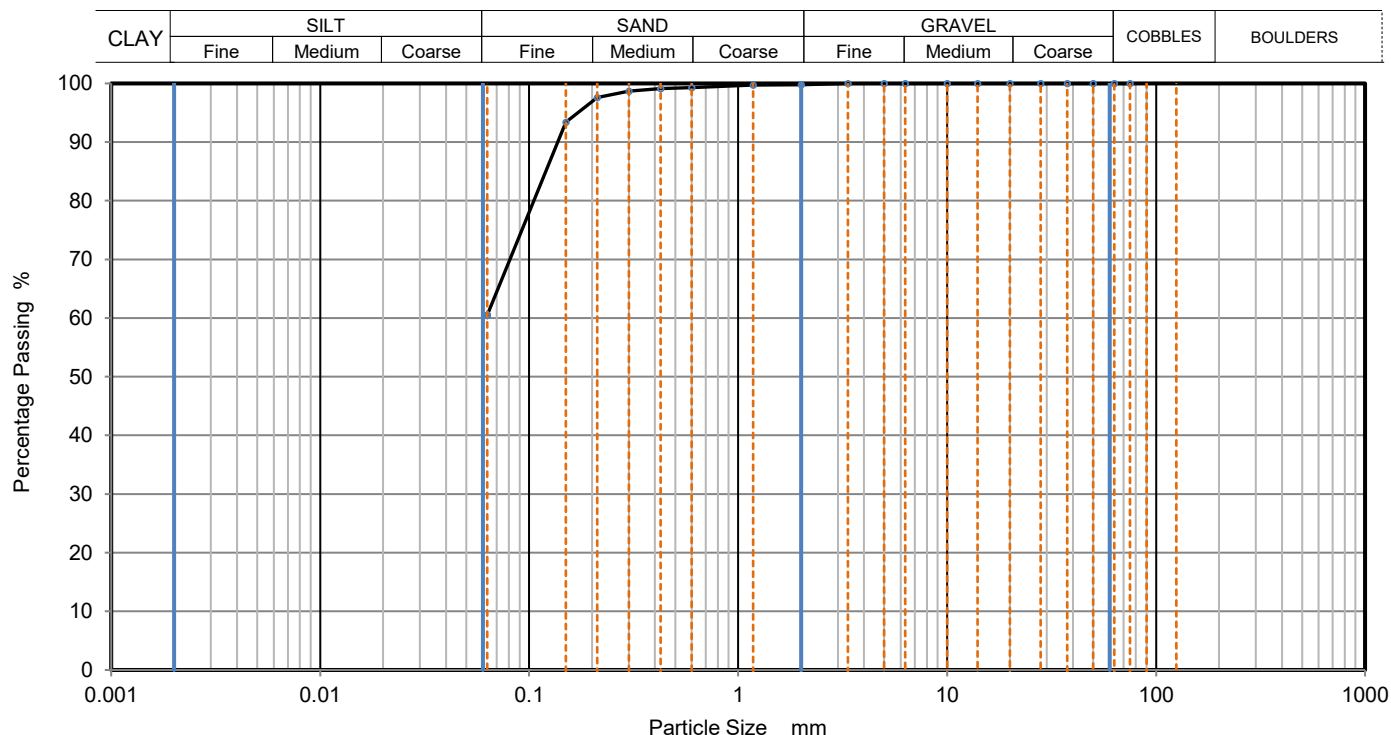
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019120417



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	99		
0.212	98		
0.15	93		
0.063	61		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	39
Fines <0.063mm	61

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

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH2

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown silty fine to medium grained SAND

Depth, m

7.50

Specimen Reference

Specimen Depth

m

Sample Type

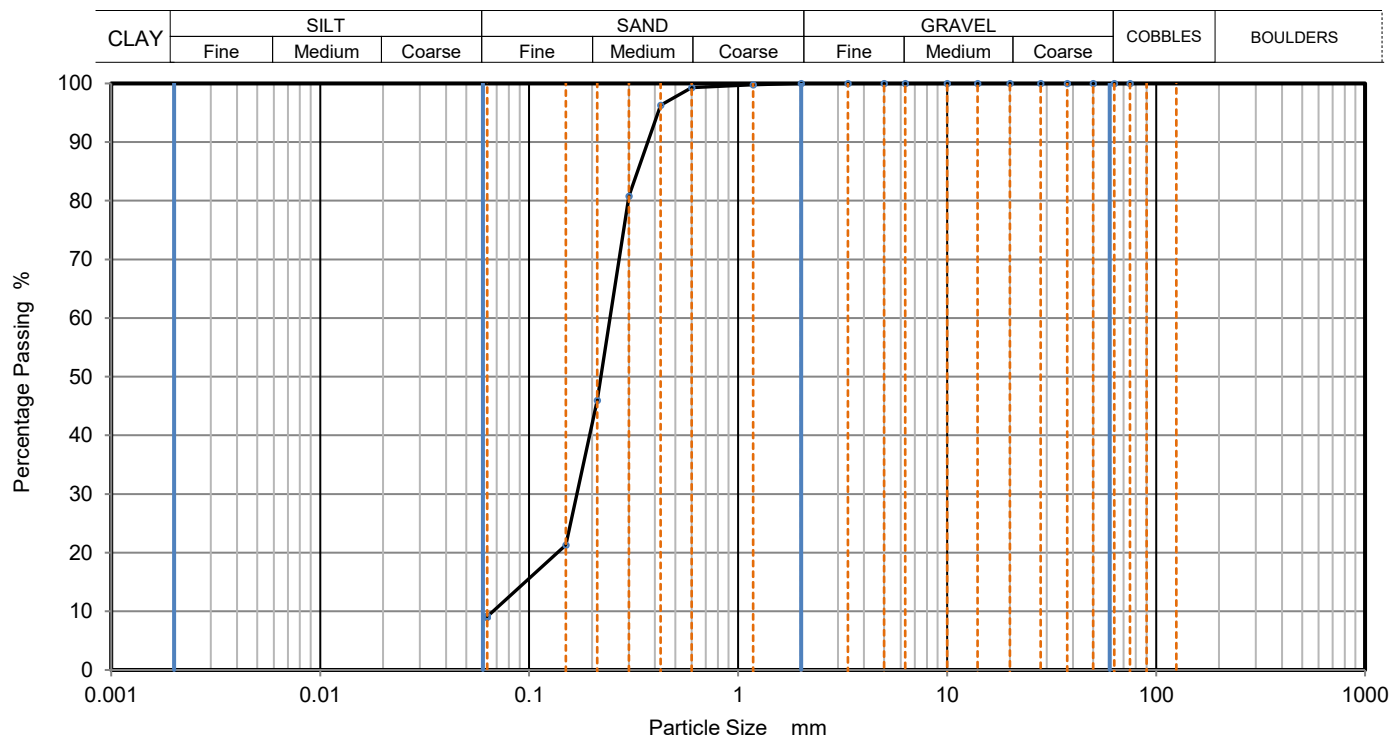
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019120418



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	96		
0.3	81		
0.212	46		
0.15	21		
0.063	9		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	91
Fines <0.063mm	9

Grading Analysis		
D100	mm	
D60	mm	0.244
D30	mm	0.169
D10	mm	0.0674
Uniformity Coefficient		3.6
Curvature Coefficient		1.7

Remarks

Preparation and testing in accordance with BS1377 unless noted below

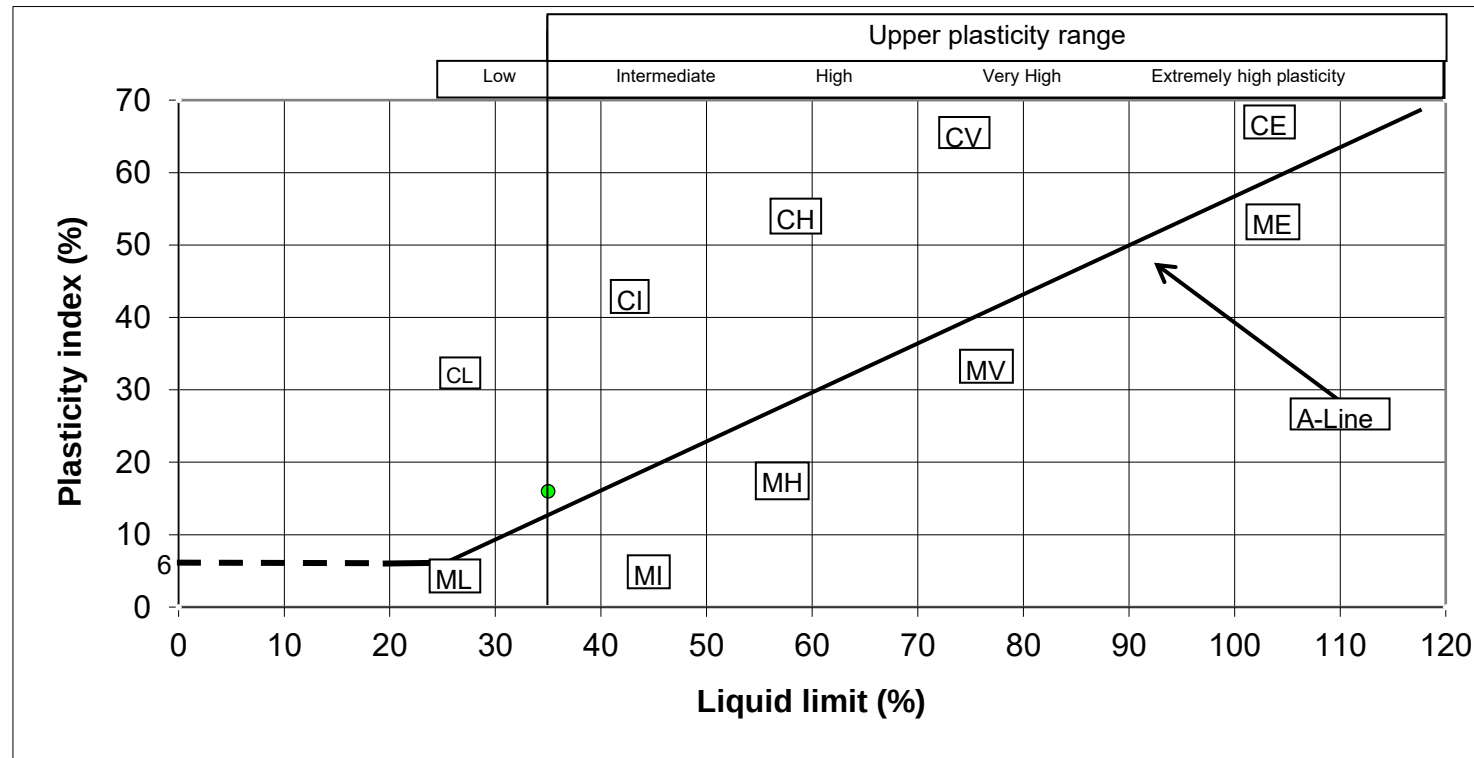
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH2	1.50	35.0	16.0



APPROVED BY	DK
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CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH3	B	1.50	1.50	-	-	-	-	-	-	-	-	-	Y	Brown very clayey slightly gravelly fine to medium grained SAND. Gravel is fine subrounded sandstone. (BS1377Pt2:9.2)
BH3	B	4.50	4.50	-	-	-	-	-	-	-	-	-	Y	Brown sandy slightly gravelly clayey SILT. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)
BH3	B	6.00	6.00	-	-	-	-	-	-	-	-	-	Y	Brown slightly silty fine to medium grained SAND. (BS1377Pt2:9.2)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
 CLIENT: BRANLEY HOMES

DATE: 10.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH3



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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH3

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown very clayey slightly gravelly fine to medium grained SAND

Depth, m

1.50

Specimen Reference

Specimen Depth

m

Sample Type

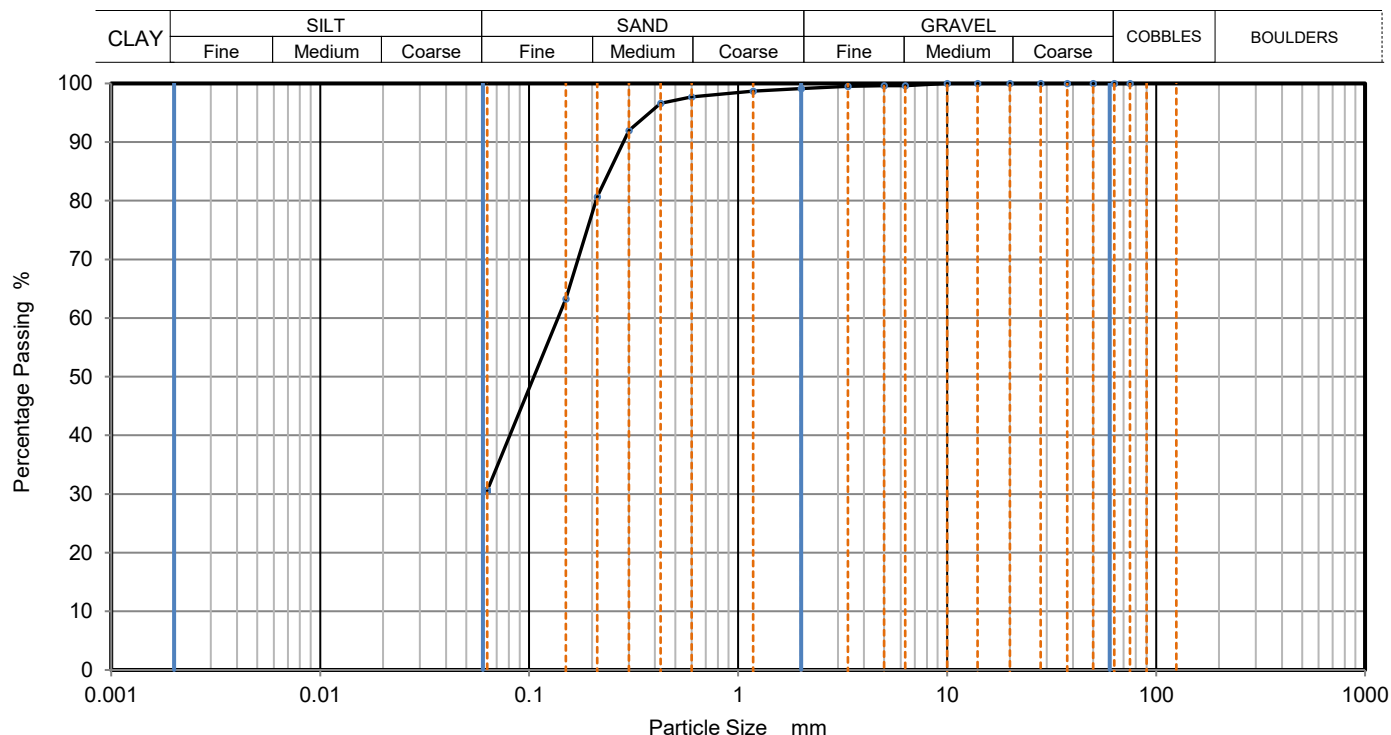
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL201912109



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	92		
0.212	81		
0.15	63		
0.063	31		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	69
Fines <0.063mm	31

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

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH3

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown sandy slightly gravelly clayey SILT

Depth, m

4.50

Specimen Reference

Specimen Depth

m

Sample Type

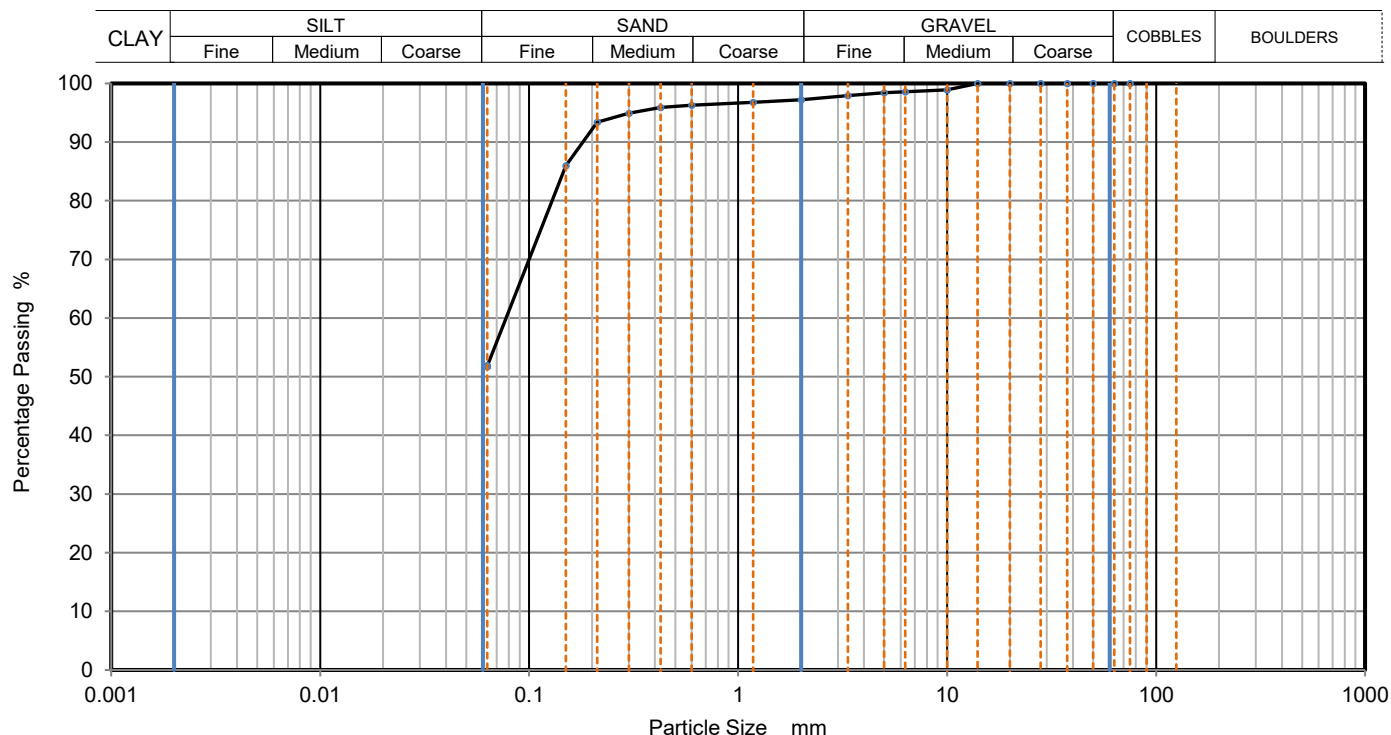
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121010



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	97		
0.6	96		
0.425	96		
0.3	95		
0.212	93		
0.15	86		
0.063	52		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	45
Fines <0.063mm	52

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

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH3

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown slightly silty fine to medium grained SAND

Depth, m

6.00

Specimen Reference

Specimen Depth

m

Sample Type

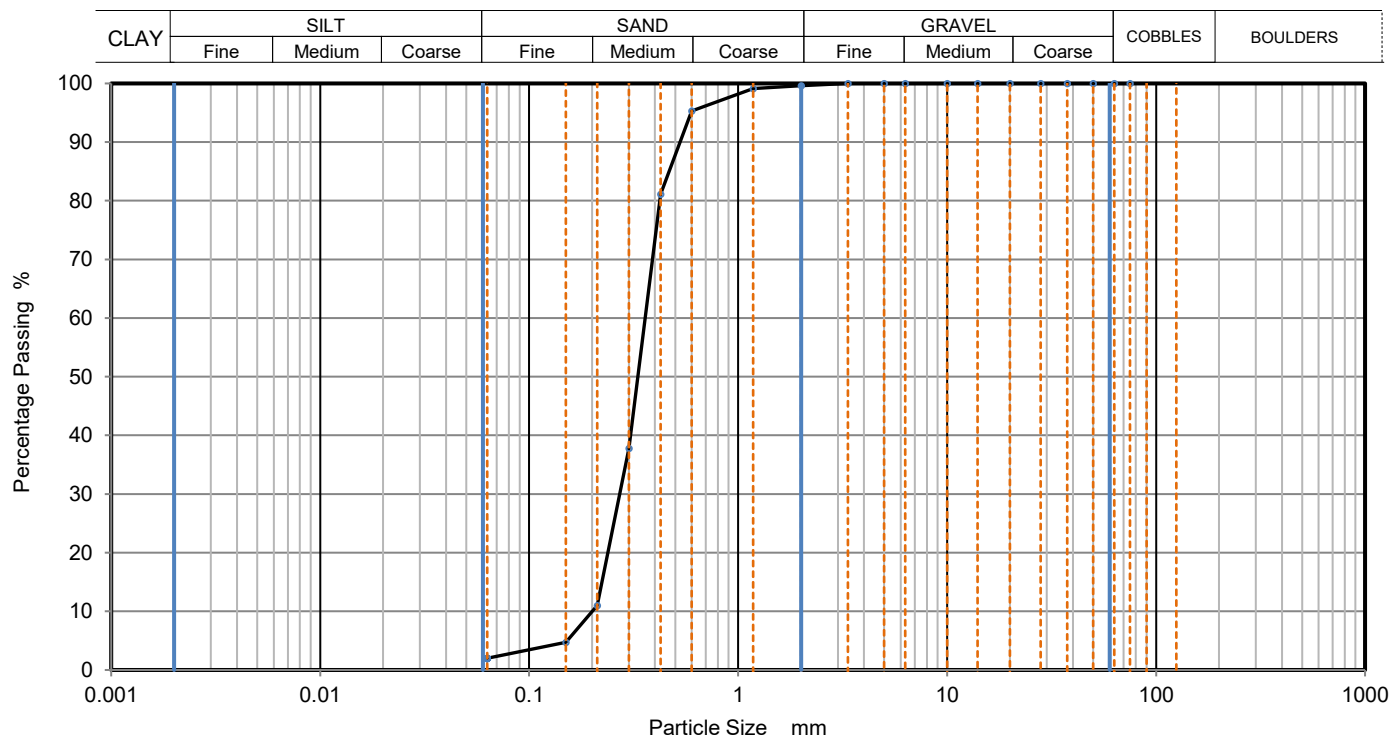
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Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121011



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	95		
0.425	81		
0.3	38		
0.212	11		
0.15	5		
0.063	2		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	98
Fines <0.063mm	2

Grading Analysis		
D100	mm	
D60	mm	0.359
D30	mm	0.271
D10	mm	0.201
Uniformity Coefficient		1.8
Curvature Coefficient		1

Remarks

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SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH4	B	0.50	0.50	18	-	-	-	30	15	15	90	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)
BH4	B	1.50	1.50	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)
BH4	B	3.50	3.50	-	-	-	-	-	-	-	-	-	Y	Brown very silty fine grained SAND. (BS1377Pt2:9.2)
BH4	B	6.00	6.00	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:9.2)
BH4	B	9.00	9.00	-	-	-	-	-	-	-	-	-	Y	Brown slightly silty slightly gravelly fine to coarse grained SAND. Gravel is fine subrounded sandstone. (BS1377Pt2:9.2)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
 CLIENT: BRANLEY HOMES

DATE: 10.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH4



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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH4

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown silty slightly gravelly fine to medium grained SAND

Depth, m

1.50

Specimen Reference

Specimen Depth

m

Sample Type

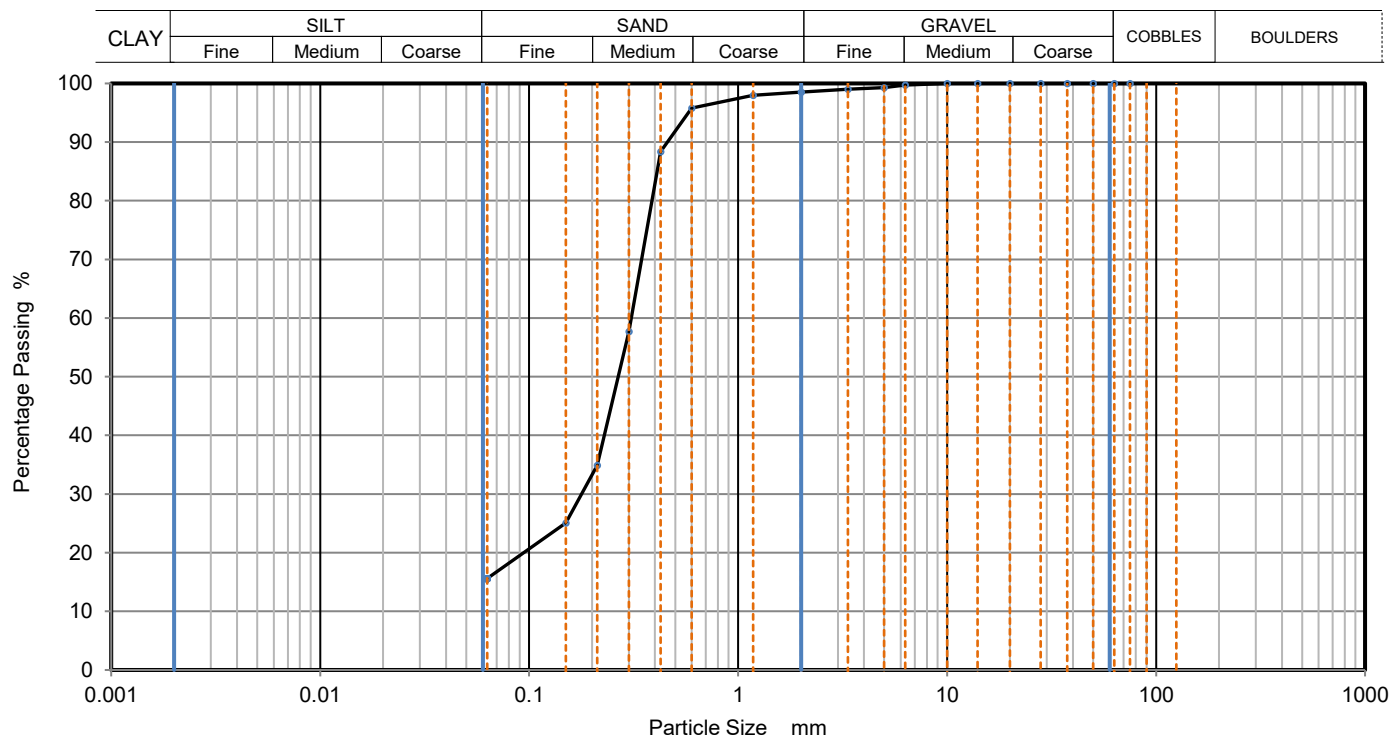
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121012



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	96		
0.425	88		
0.3	58		
0.212	35		
0.15	25		
0.063	16		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	83
Fines <0.063mm	16

Grading Analysis		
D100	mm	
D60	mm	0.308
D30	mm	0.178
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH4

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown very silty fine grained SAND

Depth, m

3.50

Specimen Reference

Specimen Depth

m

Sample Type

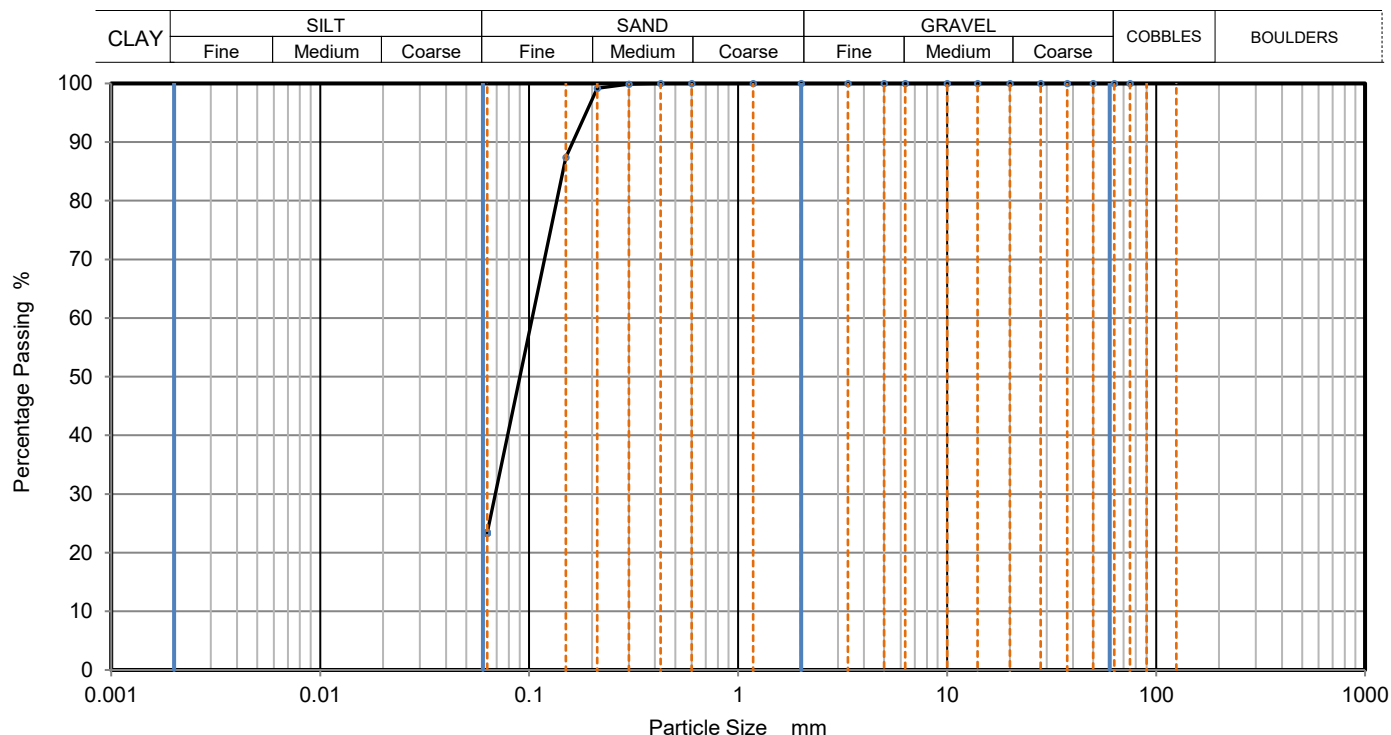
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121013



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	100		
0.212	99		
0.15	87		
0.063	23		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	77
Fines <0.063mm	23

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

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH4

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown silty slightly gravelly fine to medium grained SAND

Depth, m

6.00

Specimen Reference

Specimen Depth

m

Sample Type

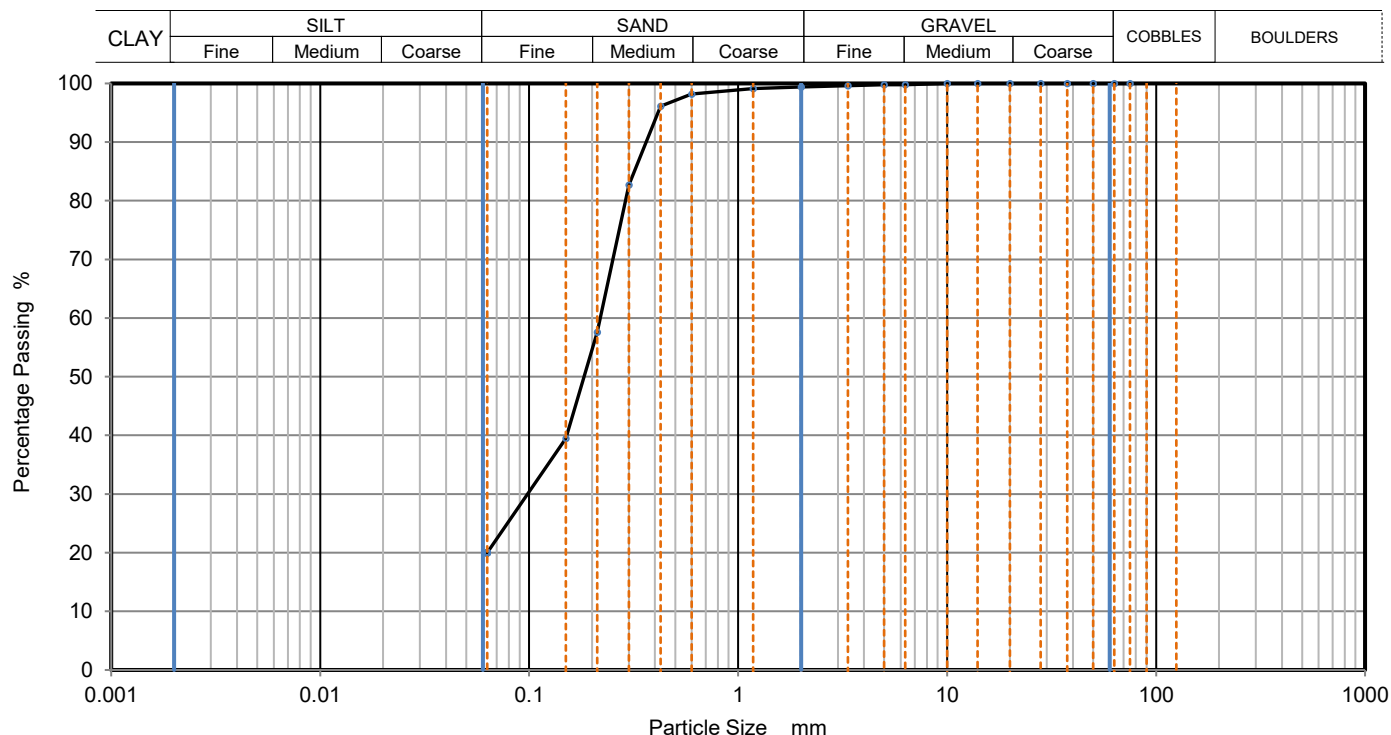
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Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121014



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	98		
0.425	96		
0.3	83		
0.212	58		
0.15	40		
0.063	20		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	79
Fines <0.063mm	20

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

Remarks

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PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH4

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown slightly silty slightly gravelly fine to coarse grained SAND

Depth, m

9.00

Specimen Reference

Specimen Depth

m

Sample Type

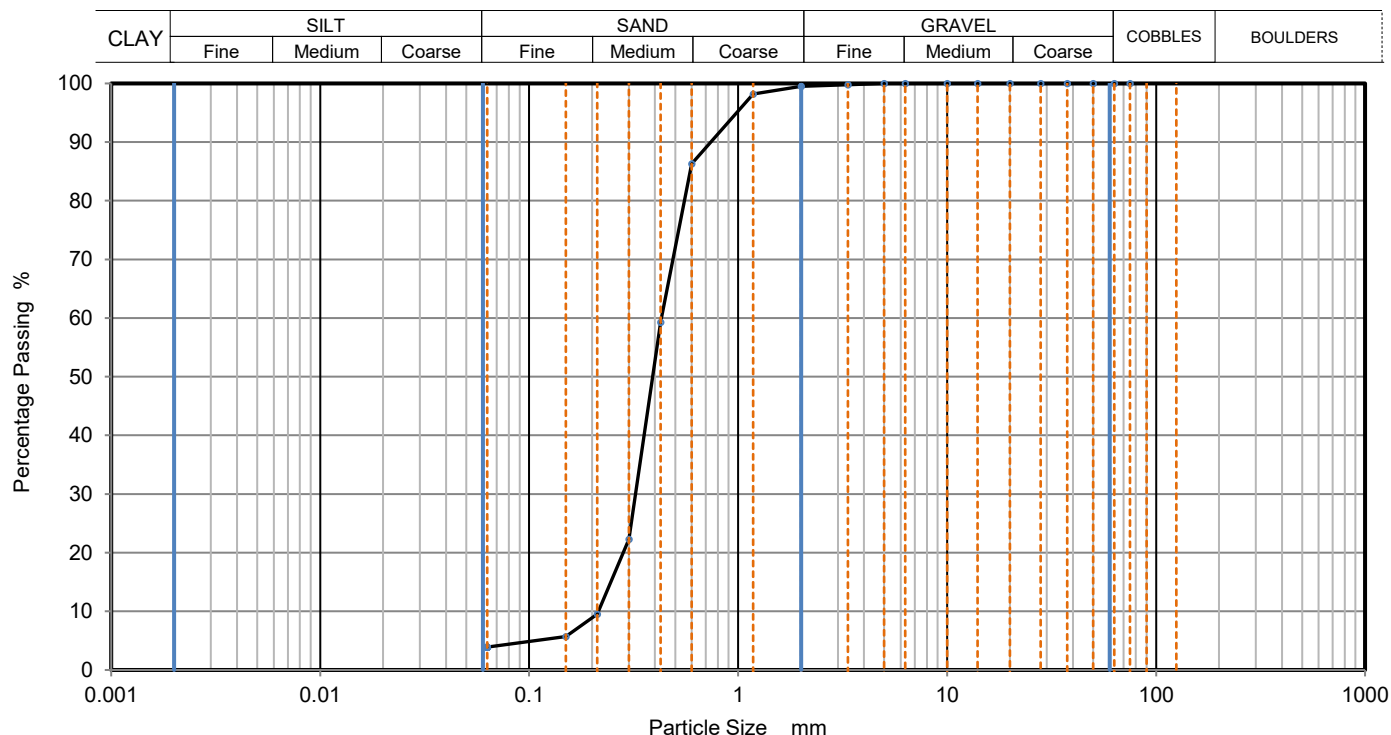
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121015



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	98		
0.6	86		
0.425	59		
0.3	22		
0.212	10		
0.15	6		
0.063	4		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	96
Fines <0.063mm	4

Grading Analysis		
D100	mm	
D60	mm	0.429
D30	mm	0.323
D10	mm	0.215
Uniformity Coefficient		2
Curvature Coefficient		1.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below

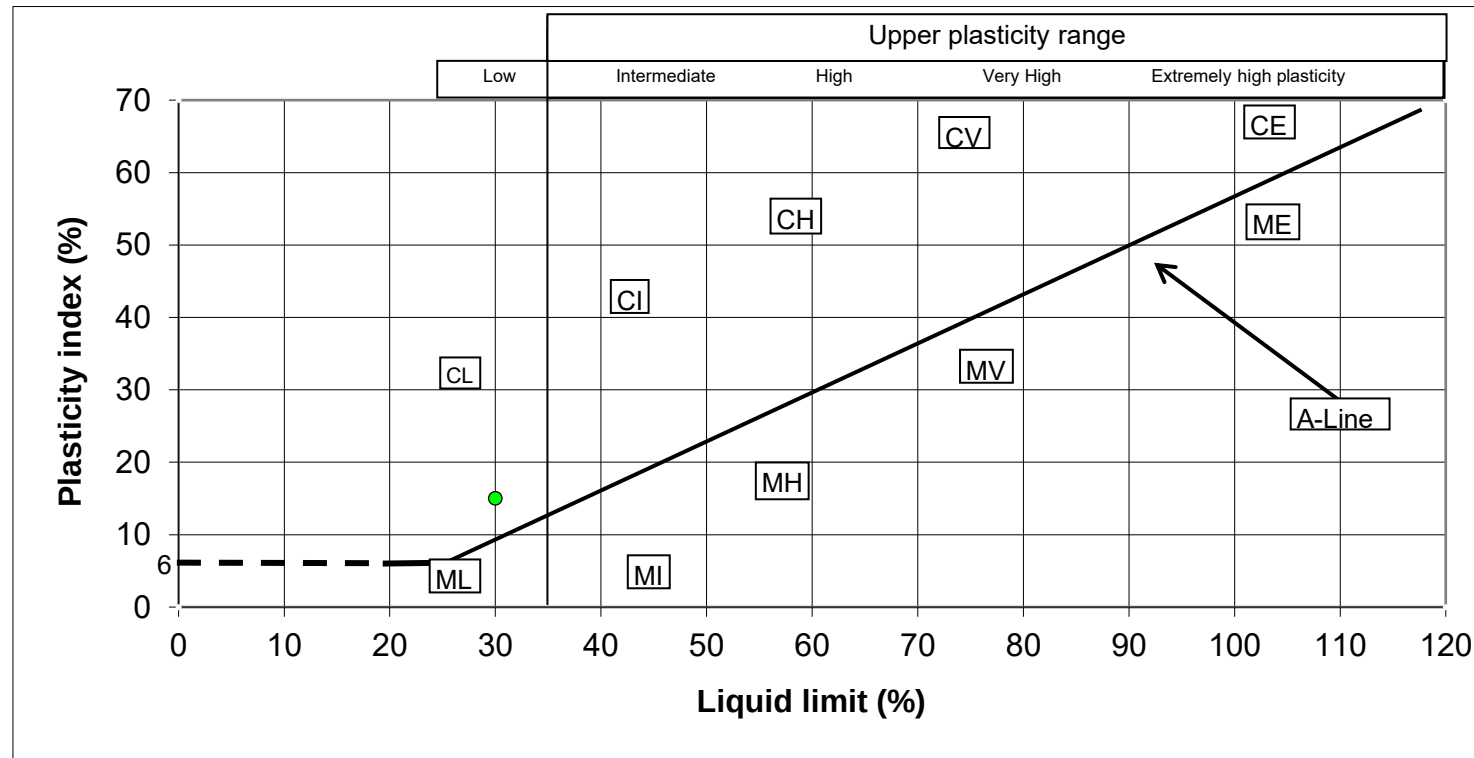
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH4	0.50	30.0	15.0



APPROVED BY	DK
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CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH5	B	2.50	2.50	-	-	-	-	-	-	-	-	-	Y	Brown slightly silty fine to medium grained SAND. (BS1377Pt2:9.2)
BH5	U	5.00	5.45	19	2.21	1.86	125	29	14	15	94	CL	Y	Brown slightly sandy slightly gravelly silty CLAY of high undrained shear strength. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5,Pt7:8)
BH5	B	7.50	7.50	-	-	-	-	-	-	-	-	-	Y	Brownish grey slightly sandy SILT. (BS1377Pt2:92)
BH5	U	9.00	9.45	14	-	-	-	25	13	12	98	CL	Y	Brownish grey slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone and mudstone. (BS1377Pt2:3.2,4.4,5,Pt7:8)
BH5	B	13.50	13.50	-	-	-	-	-	-	-	-	-	Y	Brown silty gravelly fine to coarse grained SAND. Gravel is fine to medium subrounded sandstone and mudstone. (BS3177Pt2:9.2)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
CLIENT: BRANLEY HOMES

DATE: 10.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH5



CC Geotechnical Ltd
Tel: 0151 545 2750
e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH5

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brown slightly silty fine to medium grained SAND

Depth, m

2.50

Specimen Reference

Specimen Depth

m

Sample Type

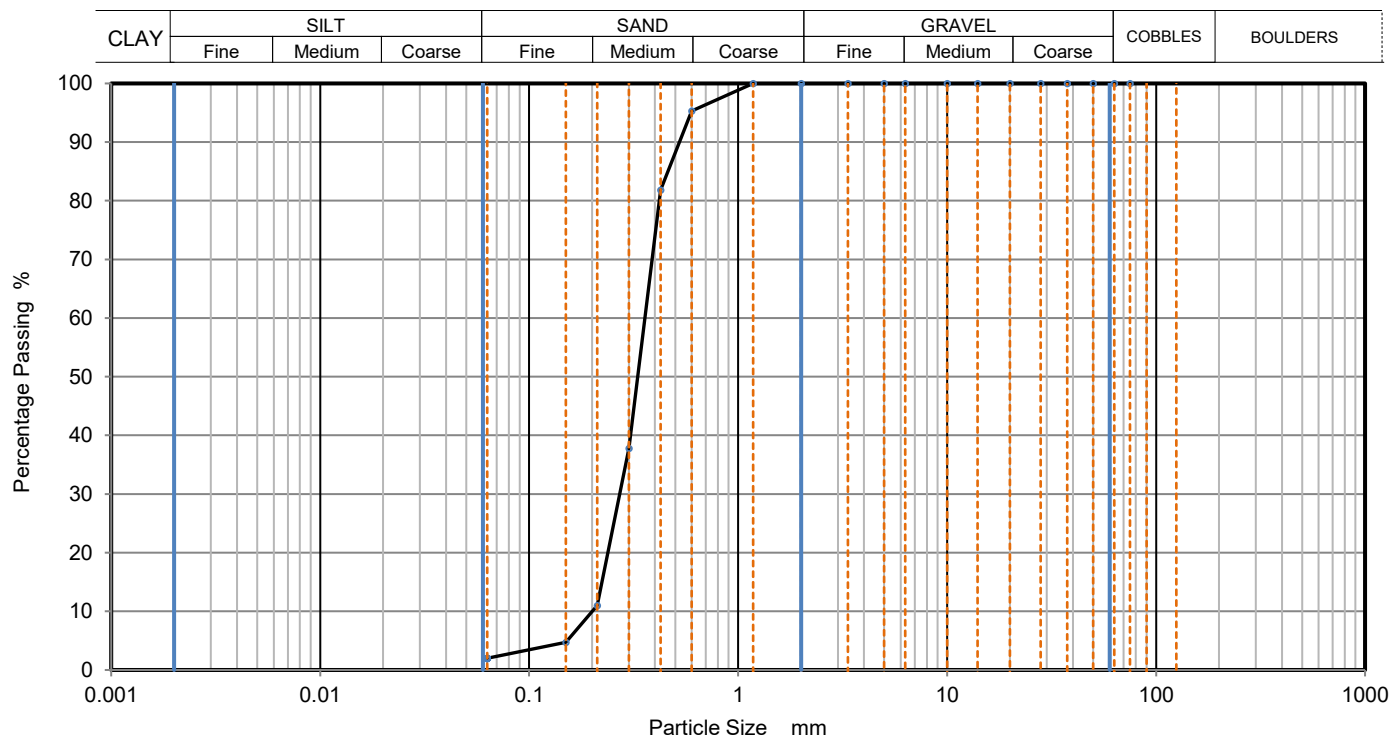
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121017





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e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH5

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen Description

Brownish grey slightly sandy SILT

Depth, m

7.50

Specimen Reference

Specimen Depth

m

Sample Type

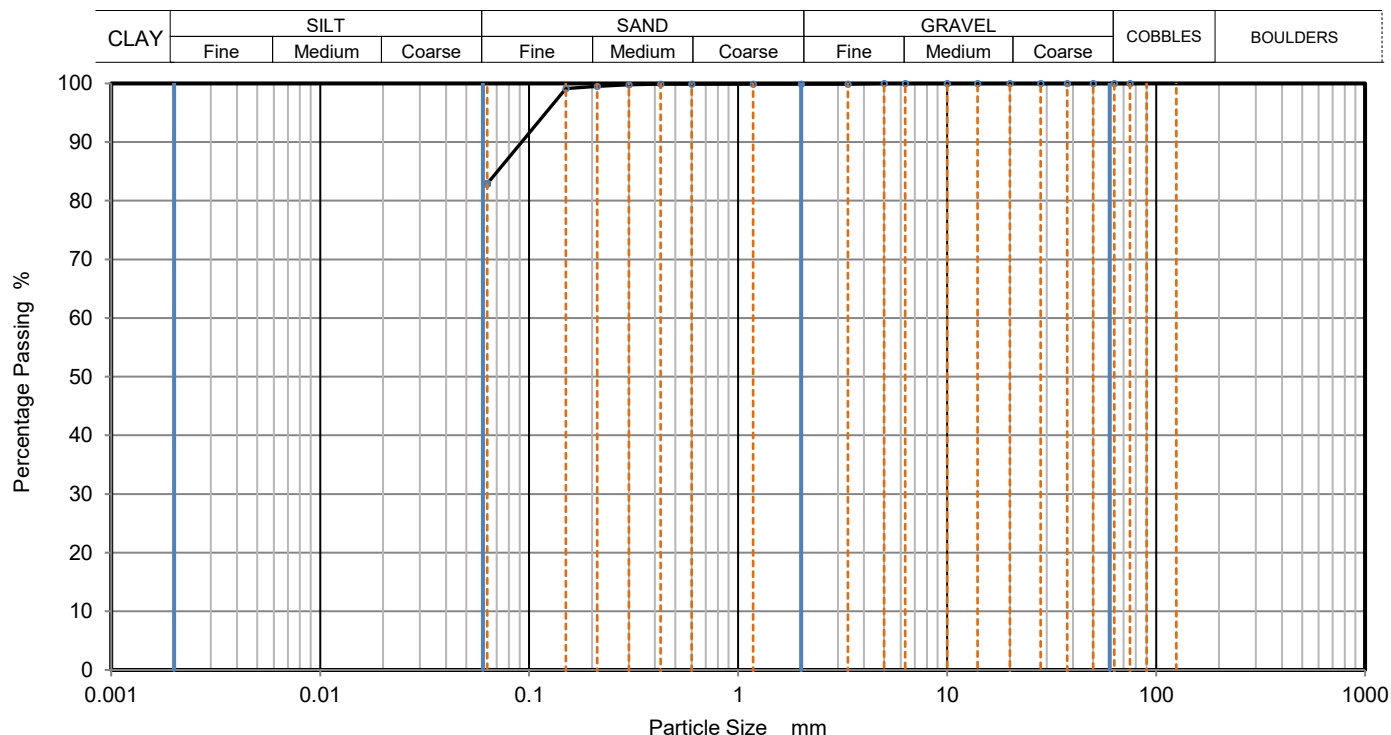
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121018



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	100		
0.212	100		
0.15	99		
0.063	83		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	17
Fines <0.063mm	83

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

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	Fig 1
JE	DK	DK	10/12/2019 16:11	Sheet



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e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH5

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen
Description

Brown silty gravelly fine to coarse grained SAND

Depth, m

13.50

Specimen
Reference

Specimen
Depth

m

Sample Type

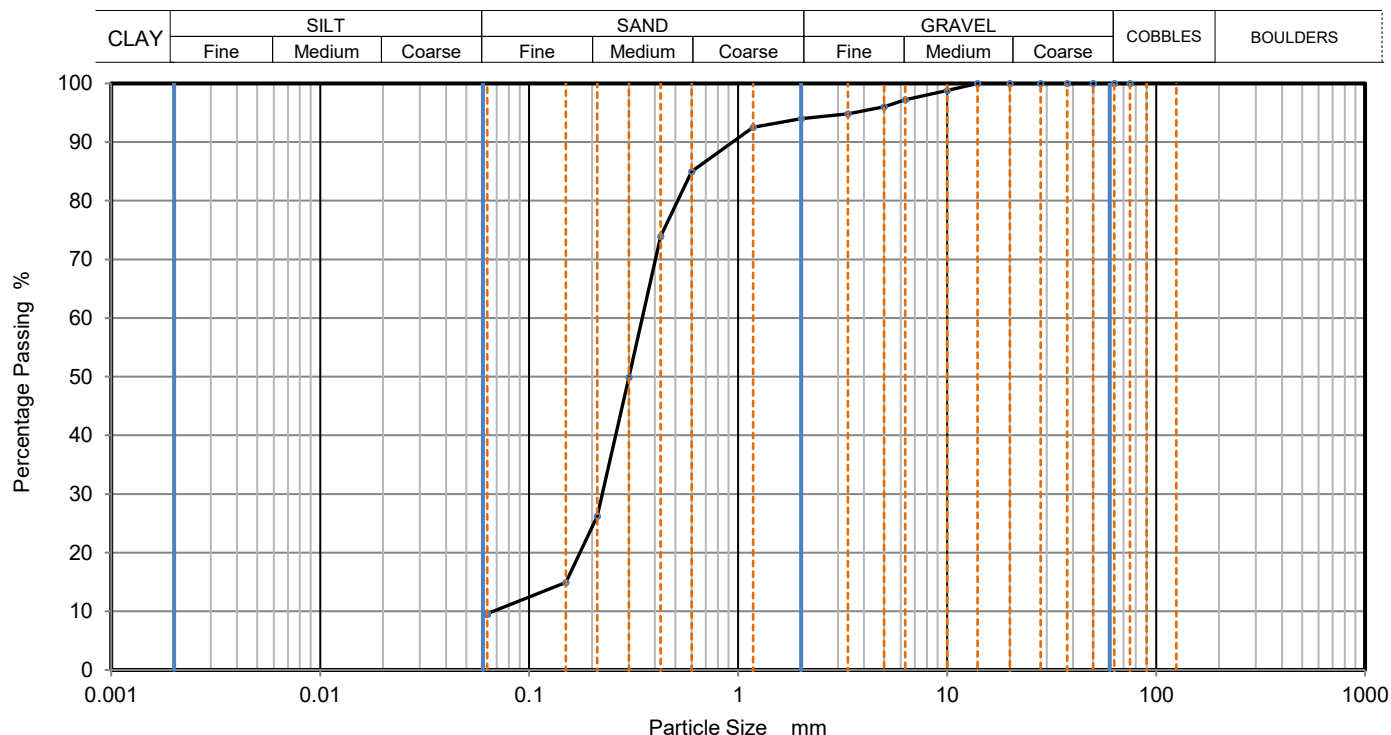
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Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	97		
5	96		
3.35	95		
2	94		
1.18	93		
0.6	85		
0.425	74		
0.3	50		
0.212	26		
0.15	15		
0.063	10		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	84
Fines <0.063mm	10

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	5.1
Curvature Coefficient	2.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below

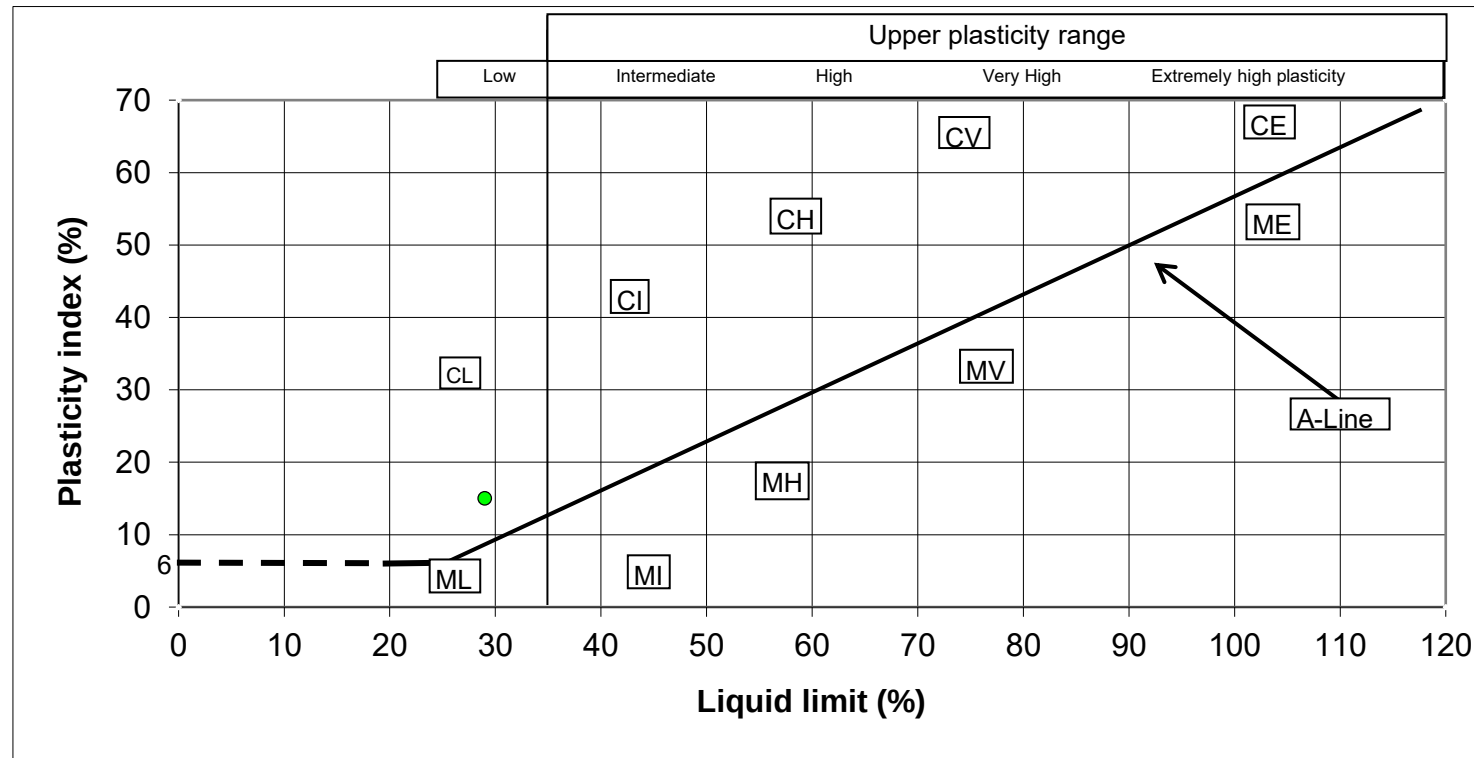
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH5	5.00	29.0	15.0



APPROVED BY	DK
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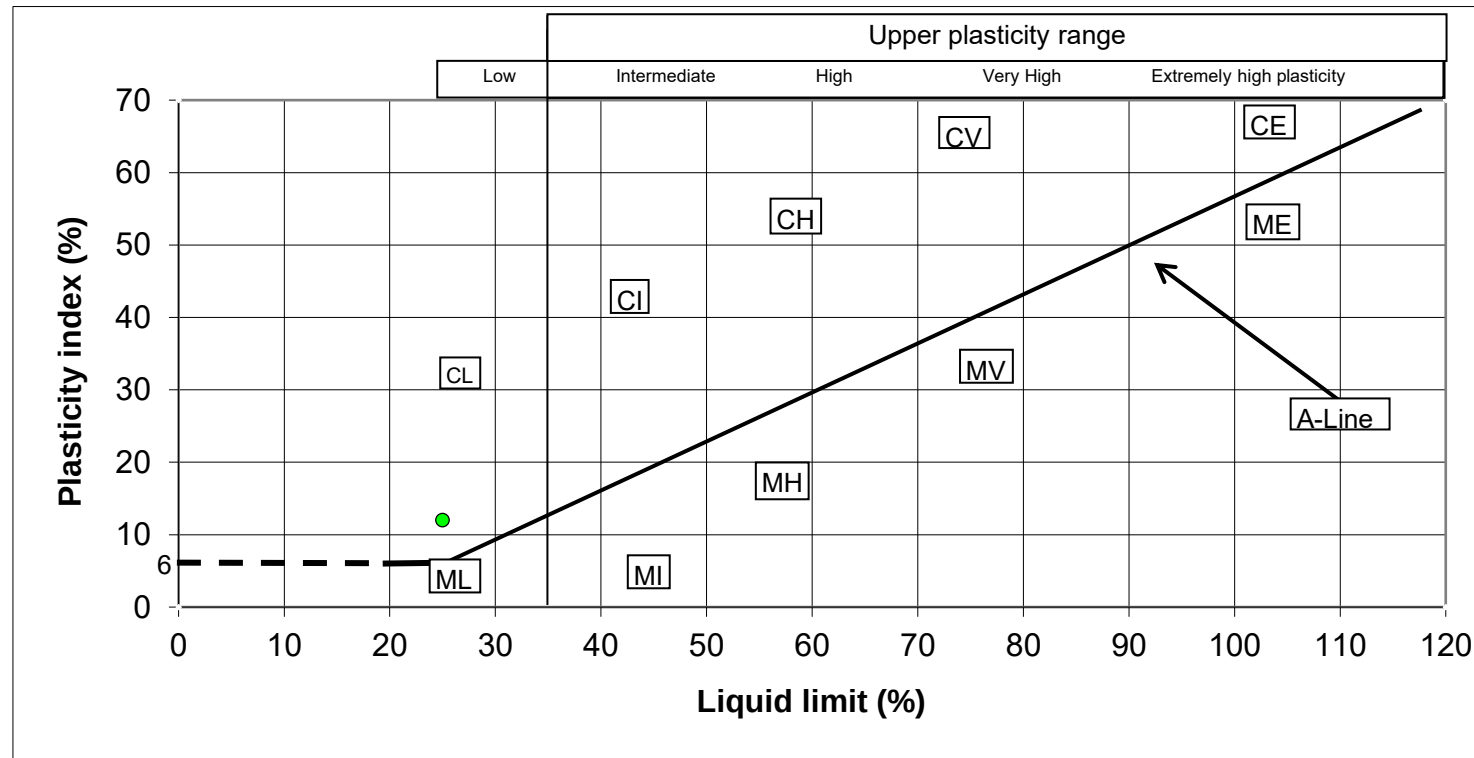
CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH5	9.00	25.0	12.0



APPROVED BY	DK
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CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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CC Geotechnical Ltd
Tel: 0151 545 2750
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Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH5

Sample No.

1

Depth

5.00

Sample Type

U

Date of test

27.11.19

Site Name

THE WHITE HOUSE CLUB

Soil Description

Specimen Reference

Specimen
Depth

m

Specimen Description

Brown slightly sandy slightly gravelly silty CLAY

Test Method

BS1377 : Part 7 : 1990, clause 8, single specimen



Test Number

1

Length

203.3

mm

Diameter

103.4

mm

Bulk Density

2.21

Mg/m³

Moisture Content

18.6

%

Dry Density

1.86

Mg/m³

Rate of Strain

2.0

%/min

Cell Pressure

100

kPa

At failure

Axial Strain

12.8

%

Deviator Stress, ($\sigma_1 - \sigma_3$)f

250

kPa

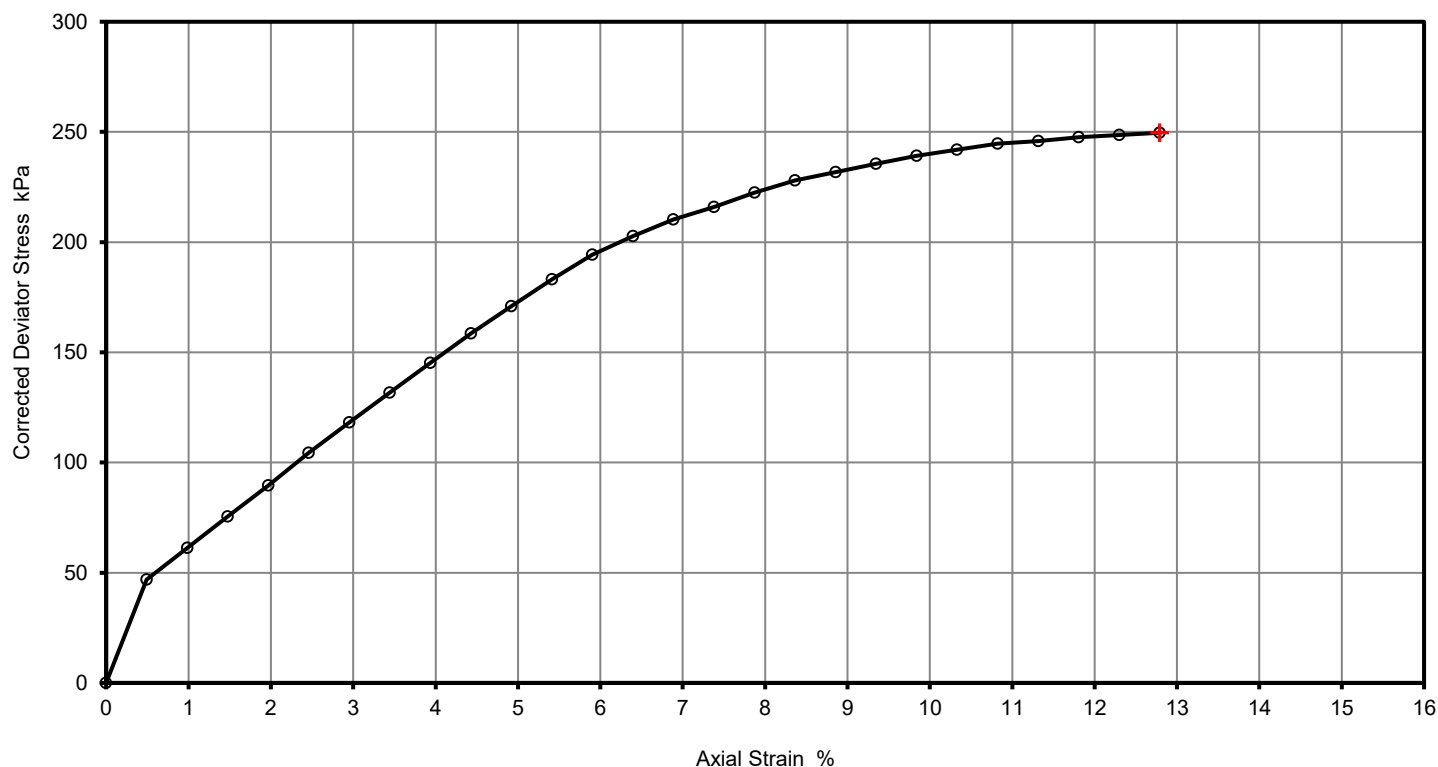
Undrained Shear Strength, cu

125

kPa $\frac{1}{2}(\sigma_1 - \sigma_3)$ f

Mode of Failure

Deviator Stress v Axial Strain



Remarks

Approved

Printed

DanielKerfoot

10/12/2019 16:12

Fig. No.

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SUMMARY OF LABORATORY SOIL TEST RESULTS

BH / TP / WS Number	Sample Type	Depth From (m)	Depth To (m)	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Shear Strength (kN/m ²)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 0.425mm (%)	Soil Classification	UKAS accredited test (Y/N)	Description / Test Method Samples described in accordance with BS EN ISO 14688-2 2004
BH6	B	2.50	2.50	-	-	-	-	-	-	-	-	-	Y	Brown silty slightly gravelly fine to medium grained SAND. Gravel is fine subrounded sandstone. (BS1377Pt2:9.2)
BH6	U	5.00	5.45	14	-	-	>110*	28	14	14	94	CL	Y	Brown slightly sandy slightly gravelly silty CLAY with occasional pocket of sand. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)
BH6	U	9.50	9.50	11	-	-	>110*	29	14	15	92	CL	Y	Brown slightly sandy slightly gravelly silty CLAY. Gravel is fine to medium subrounded sandstone. (BS1377Pt2:3.2,4.4,5)

SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
 CLIENT: BRANLEY HOMES

DATE: 10.12.19

Key:- BD = Bulk Disturbed; SD = Small Disturbed; U100 = Undisturbed 100mm; WS = Window Sample

CL = Low Plasticity; CI = Intermediate; CH = High; CV = Very high; CE = Extremely high; NP = Non-plastic

(* Denotes Hand Shear Vane test result)

Sample description not accredited by UKAS



11308 RES BH6



CC Geotechnical Ltd
Tel: 0151 545 2750
e: lab@ccgeotechnical.com

PARTICLE SIZE DISTRIBUTION

Job Ref

CCG-C-19-11308

Borehole/Pit No.

BH6

Site Name

THE WHITE HOUSE CLUB

Sample No.

1

Specimen
Description

Brown silty slightly gravelly fine to medium grained SAND

Depth, m

2.50

Specimen
Reference

Specimen
Depth

m

Sample Type

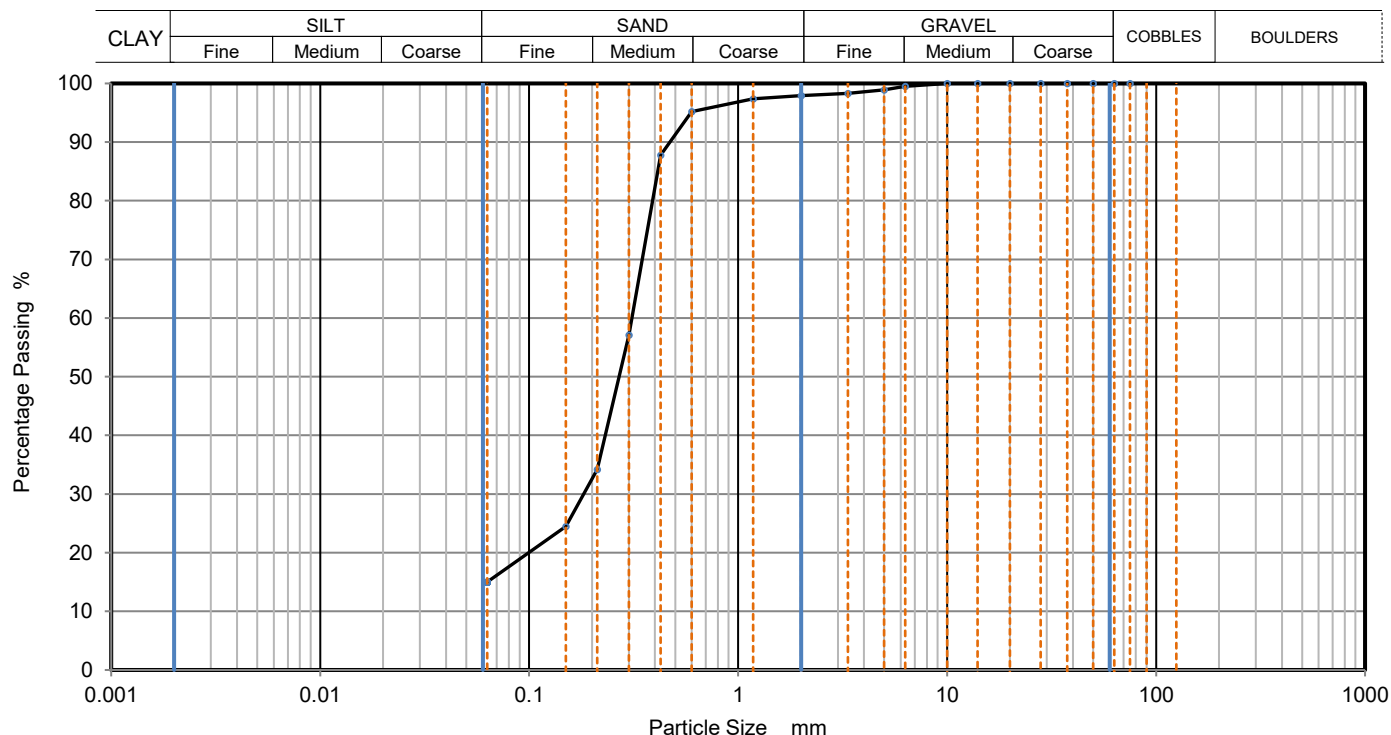
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

CCGL2019121020



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	95		
0.425	88		
0.3	57		
0.212	34		
0.15	25		
0.063	15		

Dry Mass of sample, g

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	83
Fines <0.063mm	15

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

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator

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Approved

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Fig 1

10/12/2019 16:45

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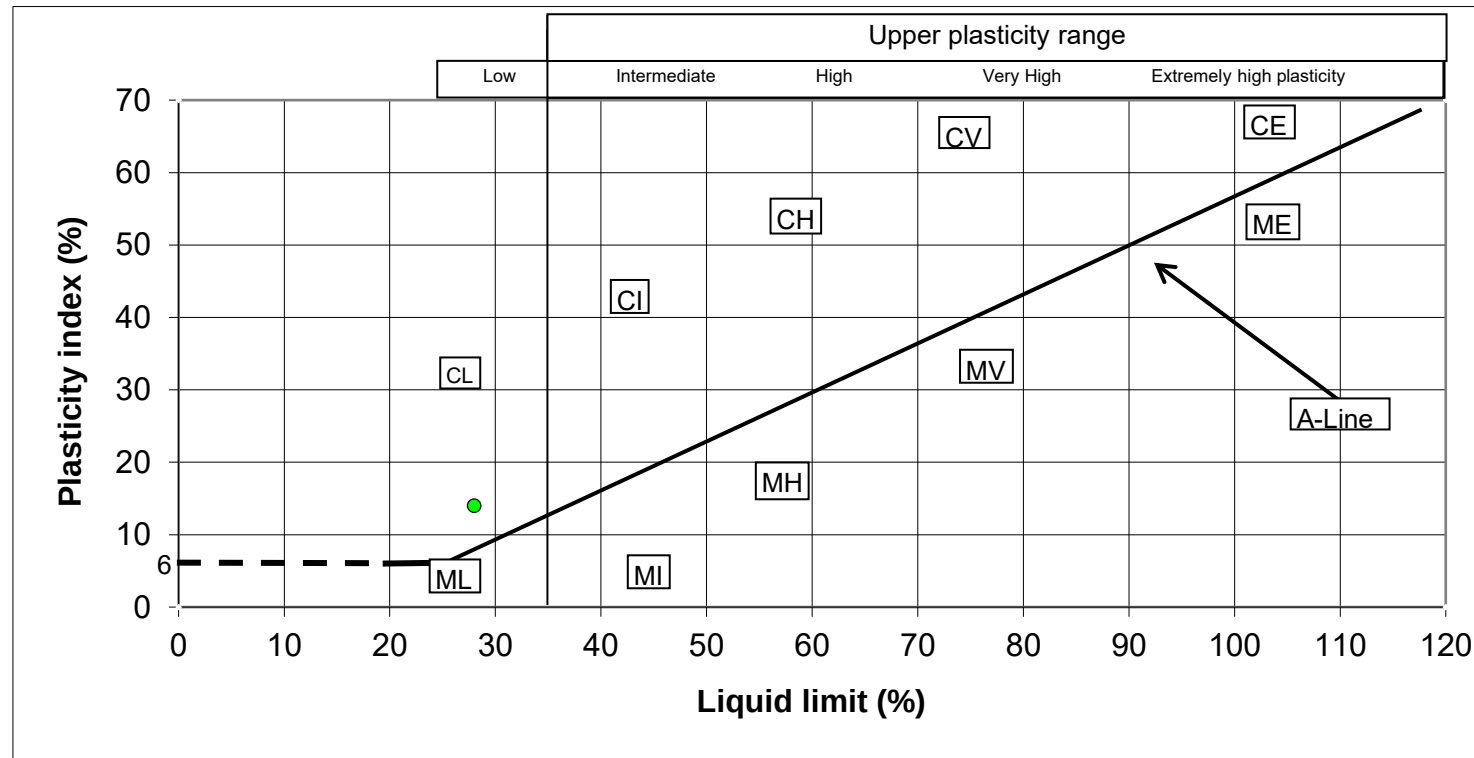
DK



ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH6	5.00	28.0	14.0



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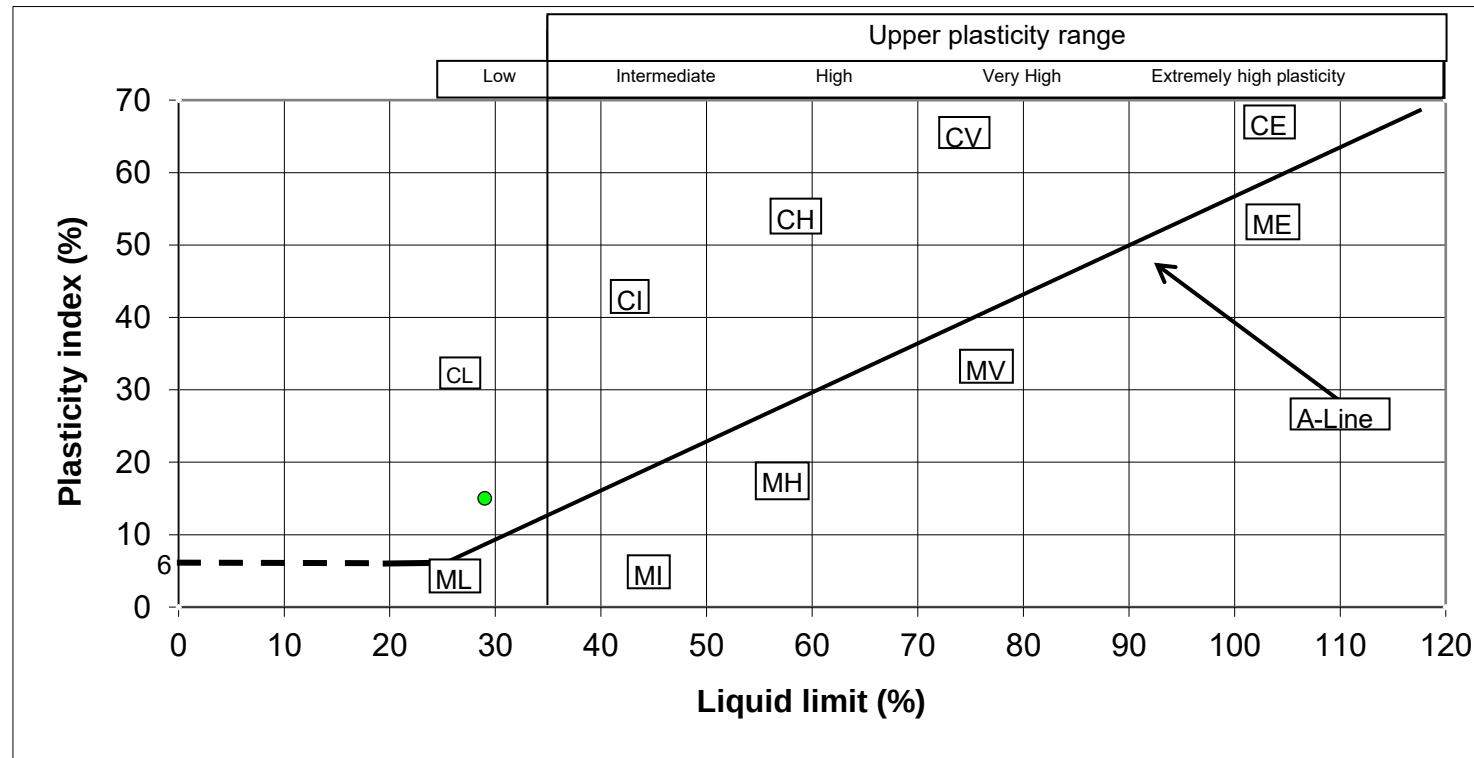
CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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ATTERBERG TEST RESULT SHEET

BS 1377:Part 2:1990:cl 4.4,5

SILT (M-SOIL), M plots below A-Line , CLAY,C, plots above A-Line, M and C may be combined as FINE SOIL, F.



BH	Sample Depth	Liquid limit	Plasticity index
BH6	9.50	29.0	15.0



APPROVED BY	DK
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CLIENT: BRANLEY HOMES	SITE: THE WHITE HOUSE CLUB (CCG-C-19-11308)
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APPENDIX III: SUMMARY TABLES FOR SOIL AND WATER CHEMICAL ANALYSIS DATA



SEMI-METALS, NON-METALS, INORGANICS AND OTHER DATA SUMMARY AND RISK ASSESSMENT SHEET

Job number: **CCG-C-19-11308**

Site name: **Whitehouse Club, Crumpsall**

Prepared by: **PR**

Authorised by: **CB**

Proposed land use: **Residential with plant uptake**

SOM % used: **1.0**

 = **Threshold exceeded**

 = **Below Limit of detection**

n/t = **Not tested**

			Semi/non-metals		Inorganics			Other		
Contaminants			Arsenic	Boron	Selenium	Cyanide (free)	Sulphate (water soluble)	Sulphate (water soluble)	pH (units)	Soil Organic Matter %
Units			mg/kg	mg/kg	mg/kg	mg/kg	g/l	mg/l	units	units
Limit of Detection			1.0	0.5	1.0	1.0	0.02	20.0	0.1	0.1
Human Health Risk Assessment (GAC)			37	290	250	22	NA	NA	NA	NA
Sample Location	Sample Depth (m)	Sample type								
BH1	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	42	8.7	n/t
BH2	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	< 20	7.9	n/t
BH3	7.50	SOIL	n/t	n/t	n/t	n/t	n/t	< 20	7.9	n/t
BH4	6.00	SOIL	n/t	n/t	n/t	n/t	n/t	< 20	6.6	n/t
BH5	13.50	SOIL	n/t	n/t	n/t	n/t	n/t	< 20	8.8	n/t
BH6	12.00	SOIL	n/t	n/t	n/t	n/t	n/t	< 20	7.9	n/t
BH5	0.30	SOIL	40.5	< 0.5	< 1.0	< 1.0	< 0.02	n/t	8.3	2.4
BH6	0.40	SOIL	33.5	< 0.5	< 1.0	< 1.0	< 0.02	n/t	8.4	2.3
TP1	0.20	SOIL	12.1	< 0.5	1.4	< 1.0	0.03	n/t	8.2	1.3
TP2	0.80	SOIL	9.2	< 0.5	< 1.0	< 1.0	< 0.02	n/t	7.9	0.9
TP3	0.30	SOIL	15	< 0.5	1.1	< 1.0	< 0.02	n/t	7.3	1
TP4	0.80	SOIL	10.3	< 0.5	< 1.0	< 1.0	< 0.02	n/t	5.8	1.9
TP5	0.30	SOIL	7.9	< 0.5	< 1.0	< 1.0	< 0.02	n/t	6.5	0.7
TP6	0.80	SOIL	8.4	< 0.5	< 1.0	< 1.0	< 0.02	n/t	5.9	0.8
TP7	0.60	SOIL	9.9	< 0.5	< 1.0	< 1.0	< 0.02	n/t	6.9	0.7
TP8	0.50	SOIL	6.4	< 0.5	< 1.0	< 1.0	< 0.02	n/t	8.6	0.8
TP9	0.30	SOIL	3.3	< 0.5	1.3	< 1.0	< 0.02	n/t	5.3	3.7
WS5		WATER	n/t	n/t	n/t	n/t	n/t	85.0	6.5	n/t
Human Health Risk Assessment (GAC)			37	290	250	22	NA	NA	NA	NA



METALS DATA SUMMARY AND RISK ASSESSMENT SHEET

Job number: **CCG-C-19-11308**

Site name: **Whitehouse Club, Crumpsall**

Prepared by: **PR**

Authorised by: **CB**

Proposed land use: **Residential with plant uptake**

SOM % used: **1.0**

 = **Threshold exceeded**

 = **Below Limit of detection**

n/t = **Not tested**

Contaminants			Metals							
			Cadmium	Chromium III	Chromium VI	Copper	Lead	Mercury (elemental)	Nickel	Zinc
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit of Detection			0.5	5.0	0.8	5.0	5.0	0.5	5.0	5.0
Human Health Risk Assessment (GAC)			11	910	6	240	200	1.2	180	3700
Sample Location	Sample Depth (m)	Sample type								
BH1	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH2	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH3	7.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH4	6.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH5	13.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH6	12.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH5	0.30	SOIL	2.7	38.8	< 0.8	126	562	8.3	42.2	385
BH6	0.40	SOIL	2.9	37.1	< 0.8	105	447	6.6	36.5	355
TP1	0.20	SOIL	0.6	31.5	< 0.8	42.1	118	< 0.5	31.3	151
TP2	0.80	SOIL	< 0.5	27.7	< 0.8	30.3	17.5	< 0.5	38.8	66.7
TP3	0.30	SOIL	< 0.5	23.3	< 0.8	41.1	61.6	< 0.5	22.7	74.2
TP4	0.80	SOIL	< 0.5	24.5	< 0.8	36.5	62.5	< 0.5	27.5	73.9
TP5	0.30	SOIL	< 0.5	25.3	< 0.8	30.3	13.1	< 0.5	37.3	75.4
TP6	0.80	SOIL	< 0.5	26.4	< 0.8	28.4	11.9	< 0.5	27.1	73
TP7	0.60	SOIL	< 0.5	29.2	< 0.8	27.3	13.5	< 0.5	37.9	75.3
TP8	0.50	SOIL	< 0.5	24.2	< 0.8	29.6	11	< 0.5	33	68.5
TP9	0.30	SOIL	< 0.5	7.6	< 0.8	15.2	15.3	< 0.5	5.6	18.2
WS5		WATER	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Human Health Risk Assessment (GAC)			11	910	6	240	200	1.2	180	3700



BTEX DATA SUMMARY AND RISK ASSESSMENT SHEET

Job number: CCG-C-19-11308

Site name: Whitehouse Club, Crumpsall

Prepared by: PR

Authorised by: CB

Proposed land use: Residential with plant uptake

SOM % used: 1.0

 = Threshold exceeded

 = Below Limit of detection

 = Not tested

			BTEX			
Contaminants			Benzene	Toluene	Ethylbenzene	Total Xylenes
Units			µg/kg	µg/kg	µg/kg	µg/kg
Limit of Detection			10	10	10	10
Human Health Risk Assessment (GAC)			0.33	610	350	NA
Sample Location	Sample Depth (m)	Sample type				
BH1	9.00	SOIL	n/t	n/t	n/t	n/t
BH2	9.00	SOIL	n/t	n/t	n/t	n/t
BH3	7.50	SOIL	n/t	n/t	n/t	n/t
BH4	6.00	SOIL	n/t	n/t	n/t	n/t
BH5	13.50	SOIL	n/t	n/t	n/t	n/t
BH6	12.00	SOIL	n/t	n/t	n/t	n/t
BH5	0.30	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
BH6	0.40	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP1	0.20	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP2	0.80	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP3	0.30	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP4	0.80	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP5	0.30	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP6	0.80	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP7	0.60	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP8	0.50	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
TP9	0.30	SOIL	< 10.0	< 10.0	< 10.0	< 10.0
WS5		WATER	n/t	n/t	n/t	n/t
Human Health Risk Assessment (GAC)			0.33	610	350	NA



SPECIATED PAH'S DATA SUMMARY AND RISK ASSESSMENT SHEET

Job number: CCG-C-19-11308

Site name: Whitehouse Club, Crumpsall

Prepared by: PR

Authorised by: CB

Proposed land use: Residential with plant uptake

SOM % used: 1.0

 = Threshold exceeded

 = Below Limit of detection

n/t = Not tested

Contaminants			PAH's																
			Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[ghi]perylene	Benzo[k]fluoranthene	Chrysene	Dibenzo[ah]anthracene	Fluoranthene	Flourene	Indeno[123-cd]pyrene	Napthalene	Pheanthrene	Pyrene	Total PAH's
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Limit of Detection			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	
Human Health Risk Assessment (GAC)			210	170	2400	7.2	2.2	2.6	320	77	15	0.24	280	170	27	2.3	95	620	NA
Sample Location	Sample Depth (m)	Sample type																	
BH1	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH2	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH3	7.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH4	6.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH5	13.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH6	12.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	
BH5	0.30	SOIL	0.2	< 0.1	0.3	1	1	0.9	0.7	1.1	1.1	0.2	2	< 0.1	0.7	< 0.1	1.1	1.6	12
BH6	0.40	SOIL	< 0.1	< 0.1	0.3	1.2	1.3	1.2	1	1.3	1.2	0.2	2	< 0.1	0.9	< 0.1	0.9	1.8	13.3
TP1	0.20	SOIL	< 0.1	< 0.1	< 0.1	0.2	0.2	0.2	0.2	0.2	0.2	< 0.1	0.3	< 0.1	0.2	< 0.1	0.2	0.3	2.3
TP2	0.80	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	1
TP3	0.30	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
TP4	0.80	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
TP5	0.30	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
TP6	0.80	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
TP7	0.60	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
TP8	0.50	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.5
TP9	0.30	SOIL	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4
WS5		WATER	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Human Health Risk Assessment (GAC)			210	170	2400	7.2	2.2	2.6	320	77	15	0.24	280	170	27	2.3	95	620	NA



SPECIATED TPH'S DATA SUMMARY AND RISK ASSESSMENT SHEET

Job number: CCG-C-19-11308

Site name: Whitehouse Club, Crumpsall

Prepared by: PR

Authorised by: CB

Proposed land use: Residential with plant uptake

SOM % used: 1.0

	=	Threshold exceeded
	=	Below Limit of detection
n/t	=	Not tested

			Speciated TPH's															
			Aromatics								Aliphatics							
Contaminants			EC5-7	EC7-8	EC8-10	EC10-12	EC12-16	EC16-21	EC21-35	EC35-44	EC5-6	EC6-8	EC8-10	EC10-12	EC12-16	EC16-35	EC35-44	TOTAL TPH'S
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Limit of Detection			0.01	0.01	1.0	1.0	1.0	1.0	1.0	1.0	0.01	0.01	1.0	1.0	1.0	1.0	1.0	1.0
Human Health Risk Assessment (GAC)			70	130	34	74	140	260	1100	1100	42	100	27	130	1100	65000	65000	NA
Sample Location	Sample Depth (m)	Sample type																
BH1	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH2	9.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH3	7.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH4	6.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH5	13.50	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH6	12.00	SOIL	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
BH5	0.30	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	1	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1
BH6	0.40	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	12.2	5.5	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	1.3	18.9
TP1	0.20	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	1.1	82.4	45.5	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	82.9	26.6	239
TP2	0.80	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	14	11.4	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	5.9	1.8	33.1
TP3	0.30	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	4.7	4.3	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	1.9	< 1.0	10.9
TP4	0.80	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	1.8	2	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.8
TP5	0.30	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TP6	0.80	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TP7	0.60	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TP8	0.50	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TP9	0.30	SOIL	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.01	< 0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
WS5		WATER	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t	n/t
Human Health Risk Assessment (GAC)			70	130	34	74	140	260	1100	1100	42	100	27	130	1100	65000	65000	NA

CCG-C-19-11308: The White House Club, Crumpsall, M8 4JZ
Controlled Waters Risk Assessment - All Determinands

				Sample Type	SOIL LEACHATE	SOIL LEACHATE	WATER	Guideline Criteria		
				Sample Location	TP1	TP6	BH5	AA-EQS	DWS	WHO
				Sample Depth (m)	0.2	0.8				
				Sampling Date	04/11/2019	04/11/2019	04/12/2019			
Determinand	Group	Units	LOD							
Dissolved Metals										
Arsenic	DISSMETALS	ug/l	5		<5	<5	<5	50	-	-
Boron	DISSMETALS	ug/l	5		13	15	40	-	1000	-
Calcium	DISSMETALS	ug/l	100		5330	1640	109000	-	-	-
Cadmium	DISSMETALS	ug/l	1		<1	<1	<1	-	5	-
Chromium	DISSMETALS	ug/l	5		<5	<5	<5	-	50	-
Copper	DISSMETALS	ug/l	5		5	<5	<5	-	22	-
Mercury	DISSMETALS	ug/l	0.1		<0.1	<0.1	<0.1	-	1	-
Magnesium	DISSMETALS	ug/l	100		788	380	6550	-	-	-
Nickel	DISSMETALS	ug/l	5		<5	<5	<5	50	50	-
Lead	DISSMETALS	ug/l	1		<5	<5	<1	-	4	-
Selenium	DISSMETALS	ug/l	5		<5	<5	<5	-	-	-
Zinc	DISSMETALS	ug/l	5		<5	<5	<5	50	-	-
Anions										
Sulphate	ANIONS	mg/l	<0.5		<1	<1	85	400000	-	-
Inorganics										
Free Cyanide	INORGANICS	ug/l	5		<5	<5	<5	5	-	-
Miscellaneous										
Dissolved organic carbon	MISC	mg/l	1.5		14.1	11.4	2	-	-	-
Hardness (CaCO3)	MISC	mg/l CaCO3	0.1		17	6	299	-	-	-
pH	MISC	pH units	0.1		7.6	6.5	6.5	-	6.0-9.0	-
Polyaromatic hydrocarbons										
Naphthalene GCMS	PAH	ug/l	0.01		0.01	0.02	0.24	2.4	-	-
Acenaphthylene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.03	-	-	-
Acenaphthene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.09	-	-	-
Fluorene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.17	-	-	-
Phenanthrene GCMS	PAH	ug/l	0.01		0.01	0.01	0.83	-	-	-
Anthracene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.2	0.1	-	-
Fluoranthene GCMS	PAH	ug/l	0.01		<0.01	0.02	0.53	0.1	-	-
Pyrene GCMS	PAH	ug/l	0.01		<0.01	0.01	0.54	-	-	-
Benzo (a) anthracene GCMS	PAH	ug/l	0.01		<0.01	0.02	0.57	-	-	-
Chrysene GCMS	PAH	ug/l	0.01		<0.01	0.01	0.3	-	-	-
Benzo (b) fluoranthene GCMS	PAH	ug/l	0.01		<0.01	0.01	0.47	0.03	0.1	-
Benzo (k) fluoranthene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.2	0.03	0.1	-
Benzo (a) pyrene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.49	0.05	0.1	0.07
Indeno (1,2,3-cd) pyrene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.23	0.002	0.1	-
Dibenzo(a,h)anthracene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.1	-	-	-
Benzo(ghi)perylene GCMS	PAH	ug/l	0.01		<0.01	<0.01	0.39	0.002	0.1	-
Total PAH(16) GCMS	PAH	ug/l	0.01		0.09	0.14	5.38	-	-	-
BTEX										
Benzene	BTEX	ug/l	1		n/t	n/t	<1.00	10	-	-
Toluene	BTEX	ug/l	1		n/t	n/t	<1.00	50	-	-
Ethylbenzene	BTEX	ug/l	1		n/t	n/t	<1.00	-	-	-
Xylenes	BTEX	ug/l	1		n/t	n/t	<1.00	-	-	-
MTBE	BTEX	ug/l	1		n/t	n/t	<1.00	-	-	-
TPH CWG										
>C5-C6 Aliphatic	TPHCWG	ug/l	1		<1.0	<1.0	<1.0	-	-	-
>C6-C8 Aliphatic	TPHCWG	ug/l	1		<1.0	<1.0	<1.0	-	-	-
>C8-C10 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	<5.0	-	-	-
>C10-C12 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	<5.0	-	-	-
>C12-C16 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	<5.0	-	-	-
>C16-C21 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	8.1	-	-	-
>C21-C35 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	137	-	-	-
>C35-C40 Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	54.7	-	-	-
Total (>C5-C35) Aliphatic	TPHCWG	ug/l	5		<5.0	<5.0	200	-	-	-
>C5-C7 Aromatic	TPHCWG	ug/l	1		<1.0	<1.0	<1.0	-	-	-
>C7-C8 Aromatic	TPHCWG	ug/l	1		<1.0	<1.0	<1.0	-	-	-
>C8-C10 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	<5.0	-	-	-
>C10-C12 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	<5.0	-	-	-
>C12-C16 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	21.2	-	-	-
>C16-C21 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	34.2	-	-	-
>C21-C35 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	177	-	-	-
>C35-C40 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	162	-	-	-
Total >C5-C35 Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	393	-	-	-
Total Aliphatic & Aromatic	TPHCWG	ug/l	5		<5.0	<5.0	593	-	-	-

Job Number:	CCG-C-19-11308	Site Name:	Whitehouse Club, Crumpsall
Prepared by:	PR	Approved by:	CB

Sample Location	Sample Depth (m)	Sample type	Sulphate (water soluble) (mg/l)	Sulphate (water soluble) (mg/l)	pH (units)	pH (units)
			Soil	Water	Soil	Water
BH1	9.00	SOIL	42	-	8.7	-
BH2	9.00	SOIL	20	-	7.9	-
BH3	7.50	SOIL	20	-	7.9	-
BH4	6.00	SOIL	20	-	6.6	-
BH5	13.50	SOIL	20	-	8.8	-
BH6	12.00	SOIL	20	-	7.9	-
BH5	0.30	SOIL	20	-	8.3	-
BH6	0.40	SOIL	20	-	8.4	-
TP1	0.20	SOIL	30	-	8.2	-
TP2	0.80	SOIL	20	-	7.9	-
TP3	0.30	SOIL	20	-	7.3	-
TP4	0.80	SOIL	20	-	5.8	-
TP5	0.30	SOIL	20	-	6.5	-
TP6	0.80	SOIL	20	-	5.9	-
TP7	0.60	SOIL	20	-	6.9	-
TP8	0.50	SOIL	20	-	8.6	-
TP9	0.30	SOIL	20	-	5.3	-
BH5		WATER	-	85	-	6.5
-	-	-	-	-	-	-
-	-	-	-	-	-	-

Soil Concrete Specification Data Sheet	
Is the site Brownfield or Greenfield?	Brownfield
Is the water table Static or Mobile	Static
Highest water-soluble Sulphate results	42
Lowest pH result	5.3
Design Sulphate Class	DS-1
ACEC Class	AC-1s
Intended Working Life	50 Years
Design Chemical Classification	DC-1

Water Concrete Specification Data Sheet	
Is the site Brownfield or Greenfield?	Brownfield
Is the water table Static or Mobile	Static
Highest water-soluble Sulphate results	85
Lowest pH result	6.5
Design Sulphate Class	DS-1
ACEC Class	AC-1s
Intended Working Life	50 Years
Design Chemical Classification	DC-1

Conclusions
Based on the soil data, concrete should be specified to conform to the compositional requirements of DC-1 as defined in BRE Special Digest 1: 2005.
Based on the water data, concrete should be specified to conform to the compositional requirements of DC-1 as defined in BRE Special Digest 1: 2005.

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WAC Analysis			Landfill Waste Acceptance Criteria Limits*					
Sample Date:	43773		Inert Waste Landfill		Stable Non-reactive Hazardous waste in non-hazardous Landfill		Hazardous Waste Landfill	
Sample ID:	TP1							
Depth (m)	0.2							
Site:	The White House Club, Crumpsall ms 417							
Determinand	Input							
Total Organic Carbon	%	2.20	3	Below	5	Below	6	Below
Loss on Ignition	%	2.9	--	Below	--	Below	10	Below
Total BTEX	mg/kg	<0.01	6	Below	--	Below	--	Below
Total PCBs (7 congeners)	mg/kg	<0.03	1	Below	--	Below	--	Below
TPH Total WAC	mg/kg	280	500	Below	--	Below	--	Below
Total (of 17) PAHs	mg/kg	2.0	100	Below	--	Below	--	Below
pH		8.2	--	Below	6	Below	--	Below
Acid Neutralisation Capacity	mol/kg	<0.1	--		To evaluate		To evaluate	
Eluate Analysis	10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg					
	mg/l	mg/kg						
Arsenic	0.006	0.06	0.5	Below	2	Below	25	Below
Barium	0.014	0.14	20	Below	100	Below	300	Below
Cadmium	< 0.001	< 0.01	0.04	Below	1	Below	5	Below
Chromium	< 0.005	< 0.05	0.5	Below	10	Below	70	Below
Copper	0.010	0.10	2	Below	50	Below	100	Below
Mercury	< 0.005	< 0.01	0.01	Below	0.2	Below	2	Below
Molybdenum	< 0.005	< 0.05	0.5	Below	10	Below	30	Below
Nickel	0.001	< 0.05	0.4	Below	10	Below	40	Below
Lead	0.004	<0.05	0.5	Below	10	Below	50	Below
Antimony	0.011	0.11	0.06	Above	0.7	Below	5	Below
Selenium	< 0.005	< 0.05	0.1	Below	0.5	Below	7	Below
Zinc	0.007	0.07	4	Below	50	Below	200	Below
Chloride	<5	<50	800	Below	15000	Below	25000	Below
Fluoride	< 5	< 10	10	Below	150	Below	500	Below
Sulphate	4	39.30	1000	Below	20000	Below	50000	Below
Total Dissolved Solids	76	764.00	4000	Below	60000	Below	100000	Below
Phenol Index	< 0.01	< 0.10	1	Below	-	Below	-	Below
Dissolved Organic Carbon	11.100	111.00	500	Below	800	Below	1000	Below
Leach Test Information								
pH	8.4							
Conductivity (uS/cm)	114							
Dry mass of test portion (g)	102.000							
Dry Matter (%)	89							
Moisture (%)	12							
Eluent Volume (ml)	980							

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

**It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.

Hazwaste Online Waste Classification

Non-Hazardous Waste

Landfill**

Non-Hazardous

WAC Analysis			Landfill Waste Acceptance Criteria Limits*					
Sample Date:	04/11/2019		Inert Waste Landfill		Stable Non-reactive Hazardous waste in non-hazardous Landfill		Hazardous Waste Landfill	
Sample ID:	TP4							
Depth (m)	0.8							
Site:	The White House Club, Crompsall me 4.17							
Determinand	Input							
Total Organic Carbon	%	1.70	3	Below	5	Below	6	Below
Loss on Ignition	%	2.9	--	Below	--	Below	10	Below
Total BTEX	mg/kg	<0.01	6	Below	--	Below	--	Below
Total PCBs (7 congeners)	mg/kg	<0.03	1	Below	--	Below	--	Below
TPH Total WAC	mg/kg	<5	500	Below	--	Below	--	Below
Total (of 17) PAHs	mg/kg	<2	100	Below	--	Below	--	Below
pH		5.8	--	Below	6	Above	--	Below
Acid Neutralisation Capacity	mol/kg	<0.1	--		To evaluate		To evaluate	
Eluate Analysis	10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg					
	mg/l	mg/kg						
Arsenic	<0.005	<0.05	0.5	Below	2	Below	25	Below
Barium	<0.005	<0.05	20	Below	100	Below	300	Below
Cadmium	< 0.001	< 0.01	0.04	Below	1	Below	5	Below
Chromium	< 0.005	< 0.05	0.5	Below	10	Below	70	Below
Copper	< 0.005	< 0.05	2	Below	50	Below	100	Below
Mercury	< 0.005	< 0.01	0.01	Below	0.2	Below	2	Below
Molybdenum	< 0.005	< 0.05	0.5	Below	10	Below	30	Below
Nickel	<0.001	< 0.05	0.4	Below	10	Below	40	Below
Lead	<0.001	<0.05	0.5	Below	10	Below	50	Below
Antimony	<0.005	<0.05	0.06	Below	0.7	Below	5	Below
Selenium	< 0.005	<0.05	0.1	Below	0.5	Below	7	Below
Zinc	0.007	0.07	4	Below	50	Below	200	Below
Chloride	5	53.00	800	Below	15000	Below	25000	Below
Fluoride	<5	< 10	10	Below	150	Below	500	Below
Sulphate	4	38.30	1000	Below	20000	Below	50000	Below
Total Dissolved Solids	27	268.00	4000	Below	60000	Below	100000	Below
Phenol Index	< 0.01	< 0.10	1	Below	-	Below	-	Below
Dissolved Organic Carbon	9.350	93.00	500	Below	800	Below	1000	Below
Leach Test Information								
pH	8.4							
Conductivity (uS/cm)	114							
Dry mass of test portion (g)	102.000							
Dry Matter (%)	89							
Moisture (%)	12							
Eluent Volume (ml)	980							

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

**It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.

Hazwaste Online Waste Classification

Non-Hazardous Waste

Landfill**

Inert

WAC Analysis			Landfill Waste Acceptance Criteria Limits*					
Sample Date:	04/11/2019		Inert Waste Landfill		Stable Non-reactive Hazardous waste in non-hazardous Landfill		Hazardous Waste Landfill	
Sample ID:	TP7							
Depth (m)	0.6							
Site:	The White House Club, Crompsall me 4.17							
Determinand	Input							
Total Organic Carbon	%	0.51	3	Below	5	Below	6	Below
Loss on Ignition	%	1.5	--	Below	--	Below	10	Below
Total BTEX	mg/kg	<0.01	6	Below	--	Below	--	Below
Total PCBs (7 congeners)	mg/kg	<0.03	1	Below	--	Below	--	Below
TPH Total WAC	mg/kg	<5	500	Below	--	Below	--	Below
Total (of 17) PAHs	mg/kg	<2	100	Below	--	Below	--	Below
pH		6.9	--	Below	6	Below	--	Below
Acid Neutralisation Capacity	mol/kg	<0.1	--		To evaluate		To evaluate	
Eluate Analysis	10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg					
	mg/l	mg/kg						
Arsenic	<0.005	<0.05	0.5	Below	2	Below	25	Below
Barium	<0.005	<0.05	20	Below	100	Below	300	Below
Cadmium	< 0.001	< 0.01	0.04	Below	1	Below	5	Below
Chromium	< 0.005	< 0.05	0.5	Below	10	Below	70	Below
Copper	< 0.005	< 0.05	2	Below	50	Below	100	Below
Mercury	< 0.005	< 0.01	0.01	Below	0.2	Below	2	Below
Molybdenum	< 0.005	< 0.05	0.5	Below	10	Below	30	Below
Nickel	0.001	< 0.05	0.4	Below	10	Below	40	Below
Lead	0.001	<0.05	0.5	Below	10	Below	50	Below
Antimony	<0.005	<0.05	0.06	Below	0.7	Below	5	Below
Selenium	< 0.005	<0.05	0.1	Below	0.5	Below	7	Below
Zinc	0.006	0.06	4	Below	50	Below	200	Below
Chloride	<5	<50	800	Below	15000	Below	25000	Below
Fluoride	<5	< 10	10	Below	150	Below	500	Below
Sulphate	4	42.50	1000	Below	20000	Below	50000	Below
Total Dissolved Solids	28	277.00	4000	Below	60000	Below	100000	Below
Phenol Index	< 0.01	< 0.10	1	Below	-	Below	-	Below
Dissolved Organic Carbon	9.800	98.00	500	Below	800	Below	1000	Below
Leach Test Information								
pH	7.5							
Conductivity (uS/cm)	41							
Dry mass of test portion (g)	102.000							
Dry Matter (%)	87							
Moisture (%)	15							
Eluent Volume (ml)	968							

Results are expressed on a dry weight basis, after correction for moisture content where applicable

* Stated limits are for guidance only, and not for conformity assessment.

**It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.

Hazwaste Online Waste Classification

Non-Hazardous Waste

Landfill**

Inert

APPENDIX Y: HAZWASTE CLASSIFICATION REPORT



Waste Classification Report



P6VXH-75TDE-HPHKP

Job name

The White House Club, Manchester

Description/Comments

Project

Site

Related Documents

#	Name	Description
None		

Waste Stream Template

CCG SOIL A 2019

Classified by

Name:

Tony Gerrard

Date:

16 Dec 2019 15:09 GMT

Telephone:

0151 545 2750

Company:

CC Geotechnical Limited**Unit 1 and 2, Deltic Place****Deltic Way, Knowsley Industrial Estate****Liverpool****L33 7BU**

Report

Created by: Tony Gerrard

Created date: 16 Dec 2019 15:09 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	TP1	0.2	Non Hazardous		3
2	TP2	0.8	Non Hazardous		8
3	TP3	0.3	Non Hazardous		13
4	TP4	0.8	Non Hazardous		18
5	TP5	0.3	Non Hazardous		23
6	TP6	0.8	Non Hazardous		27
7	TP7	0.6	Non Hazardous		32
8	TP8	0.5	Non Hazardous		36
9	TP9	0.3	Non Hazardous		40
10	BH5	0.3	Non Hazardous		44
11	BH6	0.4	Non Hazardous		49



Appendices	Page
Appendix A: Classifier defined and non CLP determinands	54
Appendix B: Rationale for selection of metal species	58
Appendix C: Version	59



Classification of sample: TP1

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

Sample details

Sample Name:	TP1	LoW Code:	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.2 m	Entry:		17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	12.1 mg/kg	1.32	15.976 mg/kg	0.0016 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.6 mg/kg	1.142	0.685 mg/kg	0.0000685 %		
3	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9	31.5 mg/kg	1.462	46.039 mg/kg	0.0046 %		
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	42.1 mg/kg	1.126	47.4 mg/kg	0.00474 %		
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	118 mg/kg	1.56	184.058 mg/kg	0.0118 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	31.3 mg/kg	2.976	93.157 mg/kg	0.00932 %		
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			1.4 mg/kg	2.554	3.575 mg/kg	0.000358 %		
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	151 mg/kg	1.245	187.952 mg/kg	0.0188 %		
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %		<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
13	pH			PH	8.2 pH		8.2 pH	8.2 pH		



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
14	phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		201-581-5	85-01-8									
20	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
21	fluoranthene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		205-912-4	206-44-0									
22	pyrene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		204-927-3	129-00-0									
23	benzo[a]anthracene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-036-00-5	205-916-6	207-08-9									
27	benzo[a]pyrene; benzo[def]chrysene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-032-00-3	200-028-5	50-32-8									
28	indeno[123-cd]pyrene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		205-893-2	193-39-5									
29	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									
30	benzo[ghi]perylene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		205-883-8	191-24-2									
31	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
32	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
33	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
34	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
35	TPH (C6 to C40) petroleum group				239	mg/kg		239	mg/kg	0.0239 %		
			TPH									
36	confirm TPH has NOT arisen from diesel or petrol				.1			.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
38	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
39	asbestos				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
40	antimony { antimony trioxide }				<0.1 mg/kg	1.197	<0.12 mg/kg	<0.000012 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
41	beryllium { beryllium oxide }				<0.1 mg/kg	2.775	<0.278 mg/kg	<0.0000278 %			<LOD
	004-003-00-8	215-133-1	1304-56-9								
42	manganese { manganese sulphate }				<0.1 mg/kg	2.749	<0.275 mg/kg	<0.0000275 %			<LOD
	025-003-00-4	232-089-9	7785-87-7								
43	molybdenum { molybdenum(VI) oxide }				<0.1 mg/kg	1.5	<0.15 mg/kg	<0.000015 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
45	tetrachloroethylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
46	carbon tetrachloride; tetrachloromethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
47	trichloroethylene; trichloroethene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-027-00-9	201-167-4	79-01-6								
48	vinyl chloride; chloroethylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-045-00-7	200-024-3	50-29-3								
50	chlordane (ISO); 1,2,4,5,6,7,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-047-00-8	200-349-0	57-74-9								
51	hexachlorocyclohexanes, including lindane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1								
52	dieldrin (ISO)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-049-00-9	200-484-5	60-57-1								
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-051-00-X	200-775-7	72-20-8								
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-046-00-2	200-962-3	76-44-8								
55	hexachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-065-00-6	204-273-9	118-74-1								
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	606-019-00-6	205-601-3	143-50-0								
57	aldrin (ISO)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-048-00-3	206-215-8	309-00-2								
58	pentachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-074-00-5	210-172-0	608-93-5								
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-077-00-1	219-196-6	2385-85-5								
60	camphechlor (ISO); toxaphene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-044-00-1	232-283-3	8001-35-2								
61	hexabromobiphenyl				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		252-994-2	36355-01-8								
62	2,3,7,8-TeCDD				<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %			<LOD
		217-122-7	1746-01-6								
63	1,2,3,7,8-PeCDD				<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %			<LOD
			40321-76-4								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0764 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0239%)



Classification of sample: TP2

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

Sample details

Sample Name:	LoW Code:
TP2	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.8 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	9.2 mg/kg	1.32	12.147 mg/kg	0.00121 %			
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide }	215-160-9	1308-38-9		27.7 mg/kg	1.462	40.485 mg/kg	0.00405 %			
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	30.3 mg/kg	1.126	34.114 mg/kg	0.00341 %			
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	17.5 mg/kg	1.56	27.297 mg/kg	0.00175 %			
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	38.8 mg/kg	2.976	115.479 mg/kg	0.0115 %			
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	66.7 mg/kg	1.245	83.022 mg/kg	0.0083 %			
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
13	pH				7.9 pH		7.9 pH	7.9 pH			



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
		205-912-4	206-44-0								
22	pyrene				0.2 mg/kg		0.2 mg/kg	0.00002 %			
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[k]fluoranthene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
	601-036-00-5	205-916-6	207-08-9								
27	benzo[a]pyrene; benzo[def]chrysene				0.1 mg/kg		0.1 mg/kg	0.00001 %			
	601-032-00-3	200-028-5	50-32-8								
28	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
29	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								
30	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
35	TPH (C6 to C40) petroleum group				33.1 mg/kg		33.1 mg/kg	0.00331 %			
			TPH								
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02.6.03.9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened		232-366-4; 265-184-9; 294-799-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.035 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00331%)



Classification of sample: TP3

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

Sample details

Sample Name:	TP3	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.3 m	Chapter:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
		Entry:	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				15 mg/kg	1.32	19.805 mg/kg	0.00198 %		
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide }				23.3 mg/kg	1.462	34.054 mg/kg	0.00341 %		
		215-160-9	1308-38-9							
4	copper { dicopper oxide; copper (I) oxide }				41.1 mg/kg	1.126	46.274 mg/kg	0.00463 %		
	029-002-00-X	215-270-7	1317-39-1							
5	lead { lead chromate }			1	61.6 mg/kg	1.56	96.085 mg/kg	0.00616 %		
	082-004-00-2	231-846-0	7758-97-6							
6	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
7	nickel { nickel chromate }				22.7 mg/kg	2.976	67.561 mg/kg	0.00676 %		
	028-035-00-7	238-766-5	14721-18-7							
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.1 mg/kg	2.554	2.809 mg/kg	0.000281 %		
	034-002-00-8									
9	zinc { zinc oxide }				74.2 mg/kg	1.245	92.358 mg/kg	0.00924 %		
	030-013-00-7	215-222-5	1314-13-2							
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
12	boron { diboron trioxide; boric oxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
13	pH				7.3 pH		7.3 pH	7.3 pH		
			PH							



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
14	phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8									
20	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
21	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-912-4	206-44-0									
22	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-927-3	129-00-0									
23	benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
27	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									
28	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
29	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									
30	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
31	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
32	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
33	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
34	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
35	TPH (C6 to C40) petroleum group				10.9	mg/kg		10.9	mg/kg	0.00109 %		
			TPH									
36	confirm TPH has NOT arisen from diesel or petrol				.1			.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
38	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
39	asbestos				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
40	antimony { antimony trioxide }				<0.1 mg/kg	1.197	<0.12 mg/kg	<0.000012 %			<LOD
	051-005-00-X	215-175-0	1309-64-4								
41	beryllium { beryllium oxide }				<0.1 mg/kg	2.775	<0.278 mg/kg	<0.0000278 %			<LOD
	004-003-00-8	215-133-1	1304-56-9								
42	manganese { manganese sulphate }				<0.1 mg/kg	2.749	<0.275 mg/kg	<0.0000275 %			<LOD
	025-003-00-4	232-089-9	7785-87-7								
43	molybdenum { molybdenum(VI) oxide }				<0.1 mg/kg	1.5	<0.15 mg/kg	<0.000015 %			<LOD
	042-001-00-9	215-204-7	1313-27-5								
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
45	tetrachloroethylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
46	carbon tetrachloride; tetrachloromethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
47	trichloroethylene; trichloroethene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-027-00-9	201-167-4	79-01-6								
48	vinyl chloride; chloroethylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-045-00-7	200-024-3	50-29-3								
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-047-00-8	200-349-0	57-74-9								
51	hexachlorocyclohexanes, including lindane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1								
52	dieldrin (ISO)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-049-00-9	200-484-5	60-57-1								
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-051-00-X	200-775-7	72-20-8								
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-046-00-2	200-962-3	76-44-8								
55	hexachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-065-00-6	204-273-9	118-74-1								
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	606-019-00-6	205-601-3	143-50-0								
57	aldrin (ISO)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-048-00-3	206-215-8	309-00-2								
58	pentachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-074-00-5	210-172-0	608-93-5								
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-077-00-1	219-196-6	2385-85-5								
60	camphechlor (ISO); toxaphene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-044-00-1	232-283-3	8001-35-2								
61	hexabromobiphenyl				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		252-994-2	36355-01-8								
62	2,3,7,8-TeCDD				<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %			<LOD
		217-122-7	1746-01-6								
63	1,2,3,7,8-PeCDD				<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %			<LOD
			40321-76-4								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0347 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00109%)



Classification of sample: TP4



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

Sample details

Sample Name:	TP4	LoW Code:	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.8 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	10.3 mg/kg	1.32	13.599 mg/kg	0.00136 %			
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide }	215-160-9	1308-38-9		24.5 mg/kg	1.462	35.808 mg/kg	0.00358 %			
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	36.5 mg/kg	1.126	41.095 mg/kg	0.00411 %			
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	62.5 mg/kg	1.56	97.488 mg/kg	0.00625 %			
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	27.5 mg/kg	2.976	81.847 mg/kg	0.00818 %			
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	73.9 mg/kg	1.245	91.984 mg/kg	0.0092 %			
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
13	pH				5.8 pH		5.8 pH	5.8 pH			



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
27	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								
28	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
29	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								
30	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
35	TPH (C6 to C40) petroleum group				3.8 mg/kg		3.8 mg/kg	0.00038 %			
			TPH								
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened		232-366-4; 265-184-9; 294-799-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0345 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00038%)



Classification of sample: TP5

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

Sample details

Sample Name:	TP5	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.3 m	Chapter:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
		Entry:	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				7.9 mg/kg	1.32	10.431 mg/kg	0.00104 %			
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide }				25.3 mg/kg	1.462	36.977 mg/kg	0.0037 %			
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				30.3 mg/kg	1.126	34.114 mg/kg	0.00341 %			
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead chromate }			1	13.1 mg/kg	1.56	20.434 mg/kg	0.00131 %			
	082-004-00-2	231-846-0	7758-97-6								
6	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				37.3 mg/kg	2.976	111.015 mg/kg	0.0111 %			
	028-035-00-7	238-766-5	14721-18-7								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
9	zinc { zinc oxide }				75.4 mg/kg	1.245	93.851 mg/kg	0.00939 %			
	030-013-00-7	215-222-5	1314-13-2								
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
12	boron { diboron trioxide; boric oxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
13	pH				6.5 pH		6.5 pH	6.5 pH			
			PH								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
14	phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8									
20	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
21	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-912-4	206-44-0									
22	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-927-3	129-00-0									
23	benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
27	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									
28	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
29	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									
30	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
31	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
32	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
33	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
34	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
35	TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			TPH									
36	confirm TPH has NOT arisen from diesel or petrol				.1			.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
38	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
39	asbestos				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
Total:										0.0314 %		

Key

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



Classification of sample: TP6

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

Sample details

Sample Name:	TP6	LoW Code:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.8 m	Chapter:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
		Entry:	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	8.4 mg/kg	1.32	11.091	mg/kg	0.00111 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571	mg/kg	<0.0000571 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9	26.4 mg/kg	1.462	38.585	mg/kg	0.00386 %		
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	28.4 mg/kg	1.126	31.975	mg/kg	0.0032 %		
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	28.4 mg/kg	1.56	44.299	mg/kg	0.00284 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677	mg/kg	<0.0000677 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	27.1 mg/kg	2.976	80.657	mg/kg	0.00807 %		
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	73 mg/kg	1.245	90.864	mg/kg	0.00909 %		
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538	mg/kg	<0.000154 %		<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61	mg/kg	<0.000161 %		<LOD
13	pH			PH	5.9 pH		5.9	pH	5.9 pH		



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
14	phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8									
20	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
21	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-912-4	206-44-0									
22	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-927-3	129-00-0									
23	benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
27	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									
28	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
29	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									
30	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
31	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
32	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
33	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
34	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
35	TPH (C6 to C40) petroleum group				212	mg/kg		212	mg/kg	0.0212 %		
			TPH									
36	confirm TPH has NOT arisen from diesel or petrol				.1			.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
38	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
39	asbestos				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0508 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0212%)



Classification of sample: TP7



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

Sample details

Sample Name:	LoW Code:
TP7	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.6 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	9.9 mg/kg	1.32	13.071 mg/kg	0.00131 %			
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide }	215-160-9	1308-38-9		29.2 mg/kg	1.462	42.677 mg/kg	0.00427 %			
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	27.3 mg/kg	1.126	30.737 mg/kg	0.00307 %			
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	27.3 mg/kg	1.56	42.583 mg/kg	0.00273 %			
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	37.9 mg/kg	2.976	112.8 mg/kg	0.0113 %			
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	75.3 mg/kg	1.245	93.727 mg/kg	0.00937 %			
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
13	pH				6.9 pH		6.9 pH	6.9 pH			



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
27	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								
28	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
29	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								
30	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
35	TPH (C6 to C40) petroleum group				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
			TPH								
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02.6.03.9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0335 %		

Key

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



Classification of sample: TP8

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

Sample details

Sample Name:	TP8	LoW Code:	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.5 m	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)	

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	6.4 mg/kg	1.32	8.45 mg/kg	0.000845 %			
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide }	215-160-9	1308-38-9		24.2 mg/kg	1.462	35.37 mg/kg	0.00354 %			
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	29.6 mg/kg	1.126	33.326 mg/kg	0.00333 %			
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	29.6 mg/kg	1.56	46.171 mg/kg	0.00296 %			
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	33 mg/kg	2.976	98.217 mg/kg	0.00982 %			
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	68.5 mg/kg	1.245	85.263 mg/kg	0.00853 %			
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5			<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
11	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
12	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
13	pH				8.6 pH		8.6 pH	8.6 pH			



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
27	benzo[a]pyrene; benzo[def]chrysene				0.3 mg/kg		0.3 mg/kg	0.00003 %			
	601-032-00-3	200-028-5	50-32-8								
28	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
29	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								
30	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
35	TPH (C6 to C40) petroleum group				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
			TPH								
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02.6.03.9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened		232-366-4; 265-184-9; 294-799-5 8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0305 %		

Key

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



Classification of sample: TP9

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

Sample details

Sample Name:	LoW Code:
TP9	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.3 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				3.3 mg/kg	1.32	4.357 mg/kg	0.000436 %			
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.5 mg/kg	1.142	<0.571 mg/kg	<0.0000571 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide }				7.6 mg/kg	1.462	11.108 mg/kg	0.00111 %			
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				15.2 mg/kg	1.126	17.114 mg/kg	0.00171 %			
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead chromate }			1	15.2 mg/kg	1.56	23.709 mg/kg	0.00152 %			
	082-004-00-2	231-846-0	7758-97-6								
6	mercury { mercury dichloride }				<0.5 mg/kg	1.353	<0.677 mg/kg	<0.0000677 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				5.6 mg/kg	2.976	16.667 mg/kg	0.00167 %			
	028-035-00-7	238-766-5	14721-18-7								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.3 mg/kg	2.554	3.32 mg/kg	0.000332 %			
	034-002-00-8										
9	zinc { zinc oxide }				18.2 mg/kg	1.245	22.654 mg/kg	0.00227 %			
	030-013-00-7	215-222-5	1314-13-2								
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
12	boron { diboron trioxide; boric oxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
13	pH				5.3 pH		5.3 pH	5.3 pH			
			pH								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
26	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
27	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								
28	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
29	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								
30	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
35	TPH (C6 to C40) petroleum group				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
			TPH								
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02.6.03.9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened		232-366-4; 265-184-9; 294-799-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.0103 %		

Key

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



Classification of sample: BH5

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

Sample details

Sample Name:	LoW Code:
BH5	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.3 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				40.5 mg/kg	1.32	53.473 mg/kg	0.00535 %			
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				2.7 mg/kg	1.142	3.084 mg/kg	0.000308 %			
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide }				38.8 mg/kg	1.462	56.708 mg/kg	0.00567 %			
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				126 mg/kg	1.126	141.862 mg/kg	0.0142 %			
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead chromate }			1	562 mg/kg	1.56	876.616 mg/kg	0.0562 %			
	082-004-00-2	231-846-0	7758-97-6								
6	mercury { mercury dichloride }				8.3 mg/kg	1.353	11.234 mg/kg	0.00112 %			
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				42.2 mg/kg	2.976	125.598 mg/kg	0.0126 %			
	028-035-00-7	238-766-5	14721-18-7								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
9	zinc { zinc oxide }				385 mg/kg	1.245	479.215 mg/kg	0.0479 %			
	030-013-00-7	215-222-5	1314-13-2								
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
12	boron { diboron trioxide; boric oxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
13	pH				8.3 pH		8.3 pH	8.3 pH			
			pH								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
14	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
		201-469-6	83-32-9							
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				1.1 mg/kg		1.1 mg/kg	0.00011 %		
		201-581-5	85-01-8							
20	anthracene				0.3 mg/kg		0.3 mg/kg	0.00003 %		
		204-371-1	120-12-7							
21	fluoranthene				2 mg/kg		2 mg/kg	0.0002 %		
		205-912-4	206-44-0							
22	pyrene				1.6 mg/kg		1.6 mg/kg	0.00016 %		
		204-927-3	129-00-0							
23	benzo[a]anthracene				1 mg/kg		1 mg/kg	0.0001 %		
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				1.1 mg/kg		1.1 mg/kg	0.00011 %		
	601-048-00-0	205-923-4	218-01-9							
25	benzo[b]fluoranthene				0.9 mg/kg		0.9 mg/kg	0.00009 %		
	601-034-00-4	205-911-9	205-99-2							
26	benzo[k]fluoranthene				1.1 mg/kg		1.1 mg/kg	0.00011 %		
	601-036-00-5	205-916-6	207-08-9							
27	benzo[a]pyrene; benzo[def]chrysene				1 mg/kg		1 mg/kg	0.0001 %		
	601-032-00-3	200-028-5	50-32-8							
28	indeno[123-cd]pyrene				0.7 mg/kg		0.7 mg/kg	0.00007 %		
		205-893-2	193-39-5							
29	dibenz[a,h]anthracene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
	601-041-00-2	200-181-8	53-70-3							
30	benzo[ghi]perylene				0.7 mg/kg		0.7 mg/kg	0.00007 %		
		205-883-8	191-24-2							
31	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
32	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
33	ethylbenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
34	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
35	TPH (C6 to C40) petroleum group				1 mg/kg		1 mg/kg	0.0001 %		
			TPH							
36	confirm TPH has NOT arisen from diesel or petrol				.1		.1			<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
38	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
39	asbestos				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5							



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02.6.03.9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5; 68476-34-6; 94114-59-7; 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened		232-366-4; 265-184-9; 294-799-5 8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.146 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0001%)



Classification of sample: BH6

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

Sample details

Sample Name:	LoW Code:	
BH6	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)
0.4 m		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				33.5 mg/kg	1.32	44.231 mg/kg	0.00442 %			
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				2.9 mg/kg	1.142	3.313 mg/kg	0.000331 %			
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide }				37.1 mg/kg	1.462	54.224 mg/kg	0.00542 %			
		215-160-9	1308-38-9								
4	copper { dicopper oxide; copper (I) oxide }				105 mg/kg	1.126	118.218 mg/kg	0.0118 %			
	029-002-00-X	215-270-7	1317-39-1								
5	lead { lead chromate }			1	447 mg/kg	1.56	697.237 mg/kg	0.0447 %			
	082-004-00-2	231-846-0	7758-97-6								
6	mercury { mercury dichloride }				6.6 mg/kg	1.353	8.933 mg/kg	0.000893 %			
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				36.5 mg/kg	2.976	108.634 mg/kg	0.0109 %			
	028-035-00-7	238-766-5	14721-18-7								
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
9	zinc { zinc oxide }				355 mg/kg	1.245	441.873 mg/kg	0.0442 %			
	030-013-00-7	215-222-5	1314-13-2								
10	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
11	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.8 mg/kg	1.923	<1.538 mg/kg	<0.000154 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
12	boron { diboron trioxide; boric oxide }				<0.5 mg/kg	3.22	<1.61 mg/kg	<0.000161 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
13	pH				8.4 pH		8.4 pH	8.4 pH			
			PH								



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
14	phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				0.9	mg/kg		0.9	mg/kg	0.00009 %		
		201-581-5	85-01-8									
20	anthracene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		204-371-1	120-12-7									
21	fluoranthene				2	mg/kg		2	mg/kg	0.0002 %		
		205-912-4	206-44-0									
22	pyrene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		204-927-3	129-00-0									
23	benzo[a]anthracene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
	601-036-00-5	205-916-6	207-08-9									
27	benzo[a]pyrene; benzo[def]chrysene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
	601-032-00-3	200-028-5	50-32-8									
28	indeno[123-cd]pyrene				0.9	mg/kg		0.9	mg/kg	0.00009 %		
		205-893-2	193-39-5									
29	dibenz[a,h]anthracene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
	601-041-00-2	200-181-8	53-70-3									
30	benzo[ghi]perylene				1	mg/kg		1	mg/kg	0.0001 %		
		205-883-8	191-24-2									
31	benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
32	toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
33	ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
34	xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
35	TPH (C6 to C40) petroleum group				18.9	mg/kg		18.9	mg/kg	0.00189 %		
			TPH									
36	confirm TPH has NOT arisen from diesel or petrol				.1			.1				<LOD
37	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
38	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
39	asbestos				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									



#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
40	antimony { antimony trioxide }				<0.1	mg/kg	1.197	<0.12	mg/kg	<0.000012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4									
41	beryllium { beryllium oxide }				<0.1	mg/kg	2.775	<0.278	mg/kg	<0.0000278 %		<LOD
	004-003-00-8	215-133-1	1304-56-9									
42	manganese { manganese sulphate }				<0.1	mg/kg	2.749	<0.275	mg/kg	<0.0000275 %		<LOD
	025-003-00-4	232-089-9	7785-87-7									
43	molybdenum { molybdenum(VI) oxide }				<0.1	mg/kg	1.5	<0.15	mg/kg	<0.000015 %		<LOD
	042-001-00-9	215-204-7	1313-27-5									
44	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
45	tetrachloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-028-00-4	204-825-9	127-18-4									
46	carbon tetrachloride; tetrachloromethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
47	trichloroethylene; trichloroethene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-027-00-9	201-167-4	79-01-6									
48	vinyl chloride; chloroethylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
49	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
50	chlordane (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
51	hexachlorocyclohexanes, including lindane				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-043-00-6	210-168-9, 200-401-2, 206-270-8, 206-271-3	58-89-9, 319-84-6, 319-85-7, 608-73-1									
52	dieldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
53	endrin (ISO); 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4:5,8-dimethanonaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
54	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
55	hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1									
56	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	606-019-00-6	205-601-3	143-50-0									
57	aldrin (ISO)				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
58	pentachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-074-00-5	210-172-0	608-93-5									
59	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-077-00-1	219-196-6	2385-85-5									
60	camphechlor (ISO); toxaphene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-044-00-1	232-283-3	8001-35-2									
61	hexabromobiphenyl				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		252-994-2	36355-01-8									
62	2,3,7,8-TeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
		217-122-7	1746-01-6									
63	1,2,3,7,8-PeCDD				<0.1	ng/kg		<1.0e-07	mg/kg	<1.0e-11 %		<LOD
			40321-76-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
64	1,2,3,4,7,8-HxCDD		39227-28-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
65	1,2,3,6,7,8-HxCDD		57653-85-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
66	1,2,3,7,8,9-HxCDD		19408-74-3		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
67	1,2,3,4,6,7,8-HpCDD		35822-46-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
68	OCDD		3268-87-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
69	2,3,7,8-TeCDF		51207-31-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
70	1,2,3,7,8-PeCDF		57117-41-6		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
71	2,3,4,7,8-PeCDF		57117-31-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
72	1,2,3,4,7,8-HxCDF		70648-26-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
73	1,2,3,6,7,8-HxCDF		57117-44-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
74	1,2,3,7,8,9-HxCDF		72918-21-9		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
75	2,3,4,6,7,8-HxCDF		60851-34-5		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
76	1,2,3,4,6,7,8-HpCDF		67562-39-4		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
77	1,2,3,4,7,8,9-HpCDF		55673-89-7		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
78	OCDF		39001-02-0		<0.1 ng/kg		<1.0e-07 mg/kg	<1.0e-11 %		<LOD
79	petrol (gasoline) petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
80	diesel petroleum group		68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
81	heavy/residual fuel oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
82	crude oils petroleum group				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
83	kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened	232-366-4; 265-184-9; 294-799-5	8008-20-6; 64742-81-0; 91770-15-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								0.127 %		

Key

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



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 .

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00189%)



Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462

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

■ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

CLP index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s)/Risk Phrase(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

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

■ **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 Chronic 1 H410 , Aquatic Acute 1 H400

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

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

■ **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: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302



▪ **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: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

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

Data source date: 23 Jul 2015

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

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

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s)/Risk Phrase(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

▪ **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: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

▪ **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

▪ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

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

Reason for additional Hazards Statement(s)/Risk Phrase(s):

29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

▪ **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane

Data source: N/a

Data source date: 14 Oct 2016

Hazard Statements: Aquatic Chronic 3 H412 , Carc. 1B H350 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315 , Acute Tox. 4 H302 , Flam. Liq. 2 H225

▪ **hexabromobiphenyl** (EC Number: 252-994-2, CAS Number: 36355-01-8)

Description/Comments:

Data source: POP specific threshold from ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004).

Data source date: 01 Jul 2013

Hazard Statements: POP >= 0.005 %



■ **2,3,7,8-TeCDD** (EC Number: 217-122-7, CAS Number: 1746-01-6)

Description/Comments: 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=1)

■ **1,2,3,7,8-PeCDD** (CAS Number: 40321-76-4)

Description/Comments: 1,2,3,7,8-pentachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=1)

■ **1,2,3,4,7,8-HxCDD** (CAS Number: 39227-28-6)

Description/Comments: 1,2,3,4,7,8-hexachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.1)

■ **1,2,3,6,7,8-HxCDD** (CAS Number: 57653-85-7)

Description/Comments: 1,2,3,6,7,8-hexachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.1)

■ **1,2,3,7,8,9-HxCDD** (CAS Number: 19408-74-3)

Description/Comments: 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.1)

■ **1,2,3,4,6,7,8-HpCDD** (CAS Number: 35822-46-9)

Description/Comments: 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.01)

■ **OCDD** (CAS Number: 3268-87-9)

Description/Comments: octachlorodibenzo-p-dioxin

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.0003)

■ **2,3,7,8-TeCDF** (CAS Number: 51207-31-9)

Description/Comments: 2,3,7,8-tetrachlorodibenzofuran

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.1)

■ **1,2,3,7,8-PeCDF** (CAS Number: 57117-41-6)

Description/Comments: 1,2,3,7,8-pentachlorodibenzofuran

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.03)

■ **2,3,4,7,8-PeCDF** (CAS Number: 57117-31-4)

Description/Comments: 2,3,4,7,8-pentachlorodibenzofuran

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.3)

■ **1,2,3,4,7,8-HxCDF** (CAS Number: 70648-26-9)

Description/Comments: 1,2,3,4,7,8-hexachlorodibenzofuran

Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)

Data source date: 24 Aug 2010

Hazard Statements: PCDD/PCDF (TEF=0.1)



▪ **1,2,3,6,7,8-HxCDF** (CAS Number: 57117-44-9)

Description/Comments: 1,2,3,6,7,8-hexachlorodibenzofuran
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.1)

▪ **1,2,3,7,8,9-HxCDF** (CAS Number: 72918-21-9)

Description/Comments: 1,2,3,7,8,9-hexachlorodibenzofuran
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.1)

▪ **2,3,4,6,7,8-HxCDF** (CAS Number: 60851-34-5)

Description/Comments: 2,3,4,6,7,8-hexachlorodibenzofuran
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.1)

▪ **1,2,3,4,6,7,8-HpCDF** (CAS Number: 67562-39-4)

Description/Comments: 1,2,3,4,6,7,8-heptachlorodibenzofuran
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.01)

▪ **1,2,3,4,7,8,9-HpCDF** (CAS Number: 55673-89-7)

Description/Comments: 1,2,3,4,7,8,9-heptachlorodibenzofuran
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.01)

▪ **OCDF** (CAS Number: 39001-02-0)

Description/Comments: octachlorodibenzo[b,d]furan
Data source: ATP1 (Regulation (EU) 756/2010) to POPs Regulation (Regulation (EC) 850/2004)
Data source date: 24 Aug 2010
Hazard Statements: PCDD/PCDF (TEF=0.0003)

▪ **petrol (gasoline) petroleum group**

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: Aquatic Chronic 2 H411 , Asp. Tox. 1 H304 , STOT SE 3 H336 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , Skin Irrit. 2 H315 , Flam. Liq. 1 H224

▪ **diesel petroleum group** (CAS Number: 68334-30-5, 68476-34-6, 94114-59-7, 1159170-26-9)

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: Aquatic Chronic 2 H411 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Carc. 2 H351 , Acute Tox. 4 H332 , Skin Irrit. 2 H315 , Flam. Liq. 3 H226

▪ **heavy/residual fuel oils petroleum group**

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: Aquatic Chronic 2 H411 , STOT RE 2 H373 , Repr. 2 H361d , Acute Tox. 4 H332 , Carc. 1B H350 , Muta. 1B H340

▪ **crude oils petroleum group**

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: Aquatic Chronic 2 H411 , STOT SE 3 H336 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Eye Irrit. 2 H319 , Carc. 1B H350 , Flam. Liq. 2 H225



■ **kerosine petroleum group including kerosine (petroleum); kerosine (petroleum) hydrosulphurised; kerosine (petroleum) sweetened** (EC Number: 232-366-4; 265-184-9; 294-799-5, CAS Number: 8008-20-6; 64742-81-0; 91770-15-9)

Description/Comments: Review of ECHA Registered Substances database; Concawe report: hazard classification and labelling of petroleum substances in the European Economic Area - 2012; REACH compliant SDS from Total, Petrobras; Petrochem; Shell; ESS Data source: <http://echa.europa.eu/information-on-chemicals/registered-substances>; Hazard classification and labelling of petroleum substances in the European Economic Area - 2012 (CONCAWE); SDS: company websites
Data source date: 21 Jan 2014
Hazard Statements: Aquatic Chronic 2 H411 , Asp. Tox. 1 H304 , Skin Irrit. 2 H315 , Flam. Liq. 3 H226

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

cadmium {cadmium oxide}

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

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

mercury {mercury dichloride}

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

nickel {nickel chromate}

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

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulposelenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

zinc {zinc oxide}

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

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

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments (edit as required)

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

manganese {manganese sulphate}

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



molybdenum {molybdenum(VI) oxide}

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

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2019.344.4102.8212 (10 Dec 2019)

HazWasteOnline Database: 2019.344.4102.8212 (10 Dec 2019)

This classification utilises the following guidance and legislation:

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

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

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

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

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

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

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

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

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

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

Revised List of Wastes 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

POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010

2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

APPENDIX L: CBR VIA DCP DATA

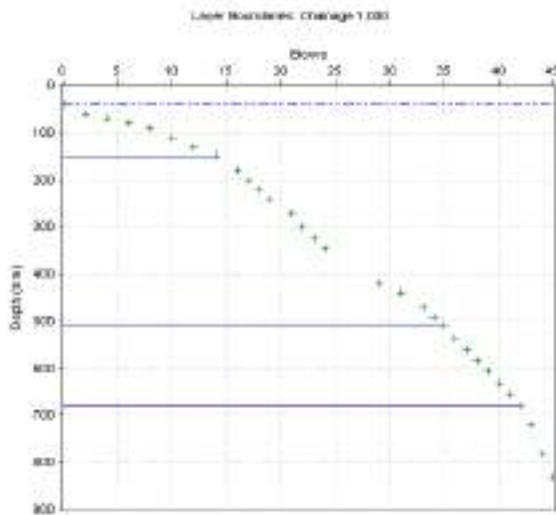


Dynamic Cone Penetrometer Strength Analysis Report

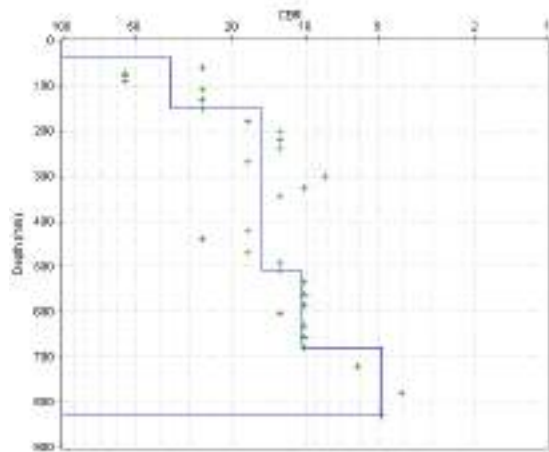
Site: The White Hosue Club
 Location: CBR1 @ 0.0mbgl
 Cone Angle: 60 degrees
 Zero Error: 120
 Test Date: 20/11/2019

Job Number: CCG-C-19-11308
 Surface Type: Tarmac
 Thickness (mm): 40

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	160	0	21	1	35	630	20.0
2	2	2	180	10.0	22	1	36	655	25.0
3	2	4	190	5.0	23	1	37	680	25.0
4	2	6	200	5.0	24	1	38	705	25.0
5	2	8	210	5.0	25	1	39	725	20.0
6	2	10	230	10.0	26	1	40	750	25.0
7	2	12	250	10.0	27	1	41	775	25.0
8	2	14	270	10.0	28	1	42	800	25.0
9	2	16	300	15.0	29	1	43	840	40.0
10	1	17	320	20.0	30	1	44	900	60
11	1	18	340	20.0	31	1	45	950	50
12	1	19	360	20.0					
13	2	21	390	15.0					
14	1	22	420	30.0					
15	1	23	445	25.0					
16	1	24	465	20.0					
17	5	29	540	15.0					
18	2	31	560	10.0					
19	2	33	590	15.0					
20	1	34	610	20.0					



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbg)	Strength Coefficient
1	36	110	150	270	
2	15	360	510	630	
3	10	170	680	800	
4	5	150	830	950	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Tarmac

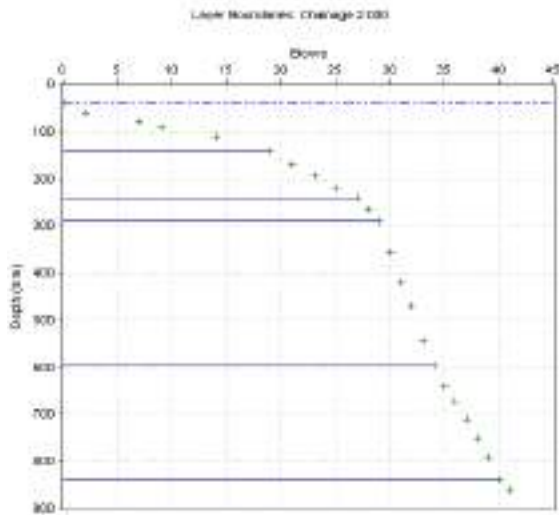


Dynamic Cone Penetrometer Strength Analysis Report

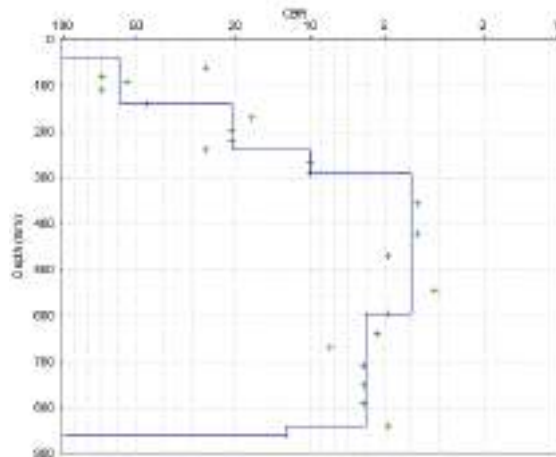
Site: The White Hosue Club
 Location: CBR2 @ 0.0mbgl
 Cone Angle: 60 degrees
 Zero Error: 90
 Test Date: 20/11/2019

Job Number: CCG-C-19-11308
 Surface Type: Tarmac
 Thickness (mm): 40

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	130	0	21	1	38	840	40.0
2	2	2	150	10.0	22	1	39	880	40.0
3	5	7	170	4.0	23	1	40	930	50.0
4	2	9	180	5.0	24	1	41	950	20.0
5	5	14	200	4.0					
6	5	19	230	6.0					
7	2	21	260	15.0					
8	2	23	285	12.5					
9	2	25	310	12.5					
10	2	27	330	10.0					
11	1	28	355	25.0					
12	1	29	380	25.0					
13	1	30	445	65.0					
14	1	31	510	65.0					
15	1	32	560	50.0					
16	1	33	635	75.0					
17	1	34	685	50.0					
18	1	35	730	45.0					
19	1	36	760	30.0					
20	1	37	800	40.0					



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	59	100	140	230	
2	21	100	240	310	
3	10	50	290	380	
4	4	305	595	685	
5	6	245	840	930	
6	13	20	860	950	

CBR Derived by TDR equation

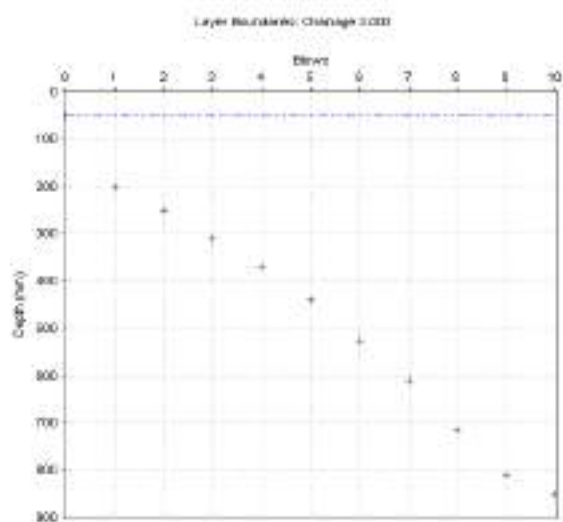
$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Tarmac

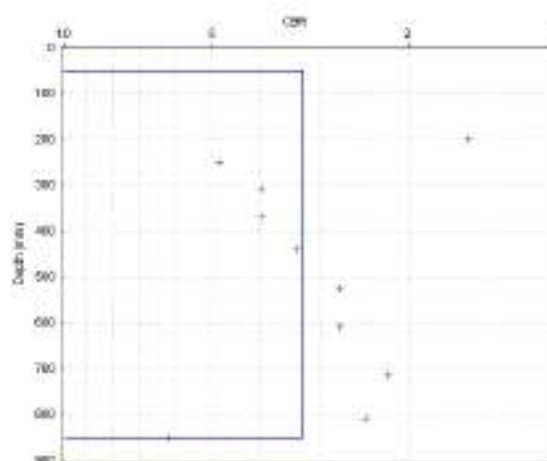
Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR3 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 110
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Tarmac
Thickness (mm): 50

[illegible][illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

Layer Properties					
No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	3	800	850	960	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

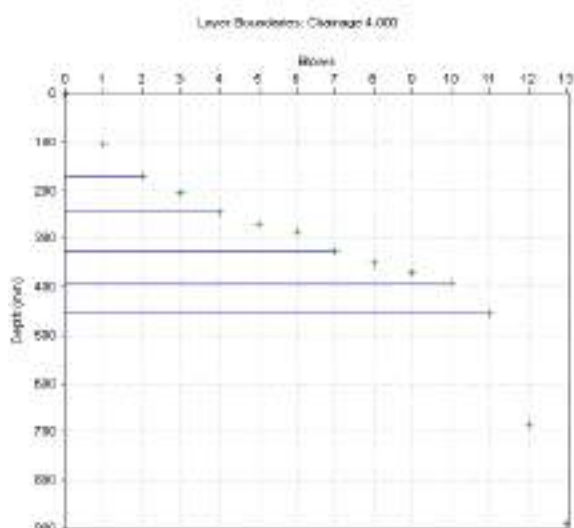
Remarks	Surface material description: Tarmac
---------	--------------------------------------

Dynamic Cone Penetrometer Strength Analysis Report

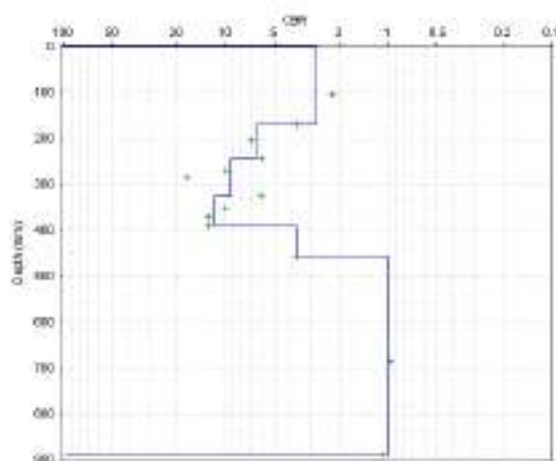
Site: The White Hosue Club
Location: CBR4 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 65
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm / b)
1	0	0	65	0
2	1	1	170	105.0
3	1	2	235	65.0
4	1	3	270	35.0
5	1	4	310	40.0
6	1	5	335	25.0
7	1	6	350	15.0
8	1	7	390	40.0
9	1	8	415	25.0
10	1	9	435	20.0
11	1	10	455	20.0
12	1	11	520	65.0
13	1	12	750	230.0
14	1	13	955	205.0

[illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

Layer Properties					
No.	CBR value	Thickness	Depth	Depth mm bgl	Strength Coefficient
1	3	170	170	235	
2	7	75	240	305	
3	9	80	325	390	
4	12	65	390	455	
5	4	65	455	520	
6	1	435	890	955	

CBR Derived by TDR equation

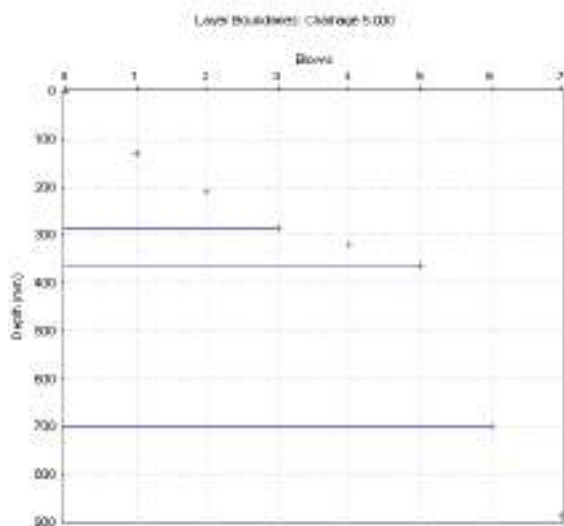
$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: Grassed TOPSOIL
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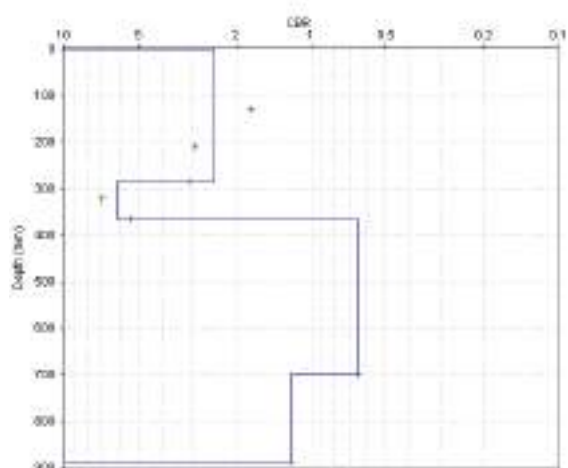
Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR5 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 70
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

[illegible][illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	2	285	285	355	
2	6	80	365	435	
3	1	335	700	770	
4	1	185	885	955	

CBR Derived by TDR equation

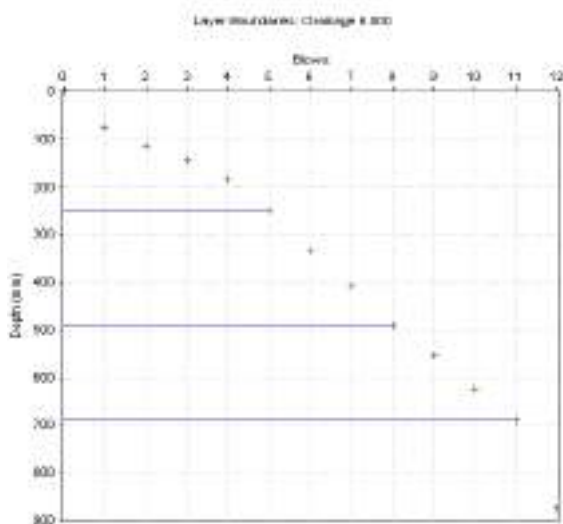
$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: Grassed TOPSOIL
---------	---

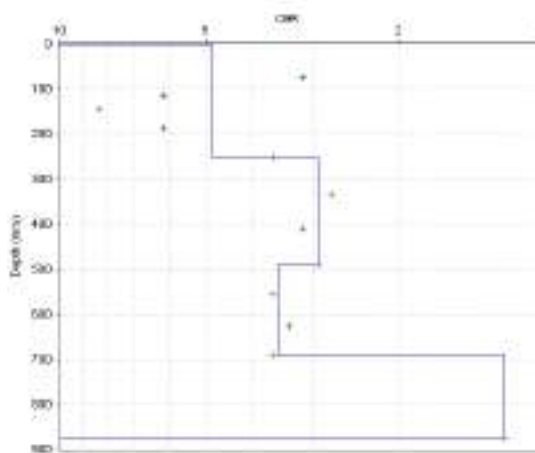
Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR6 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 80
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

[illegible][illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	5	250	250	330	
2	3	240	490	570	
3	4	200	690	770	
4	1	185	875	955	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: Grassed TOPSOIL
---------	---

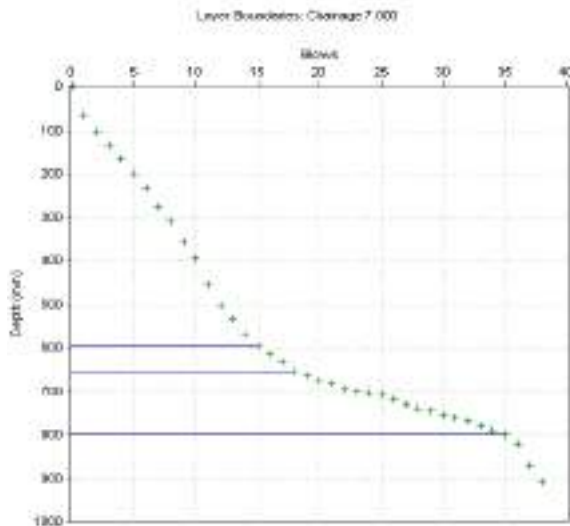


Dynamic Cone Penetrometer Strength Analysis Report

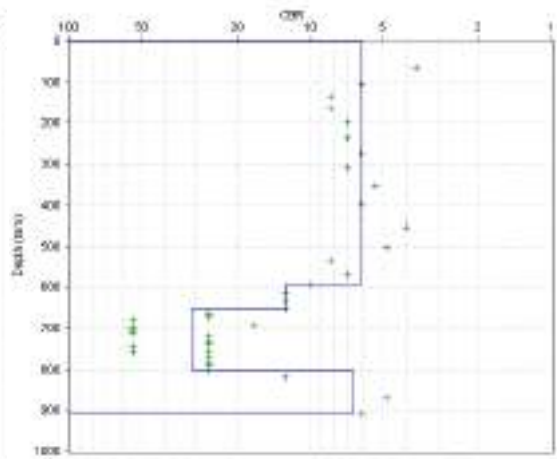
Site: The White Hosue Club
 Location: CBR7 @ 0.0 mbgl
 Cone Angle: 60 degrees
 Zero Error:
 Test Date: 20/11/2019

Job Number: CCG-C-19-11308
 Surface Type: Natural
 Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	70	0	21	1	20	745	10.0
2	1	1	135	65.0	22	1	21	750	5.0
3	1	2	175	40.0	23	1	22	765	15.0
4	1	3	205	30.0	24	1	23	770	5.0
5	1	4	235	30.0	25	1	24	775	5.0
6	1	5	270	35.0	26	1	25	780	5.0
7	1	6	305	35.0	27	1	26	790	10.0
8	1	7	345	40.0	28	1	27	800	10.0
9	1	8	380	35.0	29	1	28	810	10.0
10	1	9	425	45.0	30	1	29	815	5
11	1	10	465	40.0	31	1	30	825	10
12	1	11	525	60.0	32	1	31	830	5
13	1	12	575	50.0	33	1	32	840	10
14	1	13	605	30.0	34	1	33	850	10
15	1	14	640	35.0	35	1	34	860	10
16	1	15	665	25.0	36	1	35	870	10
17	1	16	685	20.0	37	1	36	890	20
18	1	17	705	20.0	38	1	37	940	50
19	1	18	725	20.0	39	1	38	980	40
20	1	19	735	10.0					



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Dept mmbgl	Strength Coefficient
1	6	595	595	665	
2	13	60	655	725	
3	31	145	800	870	
4	7	110	910	980	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

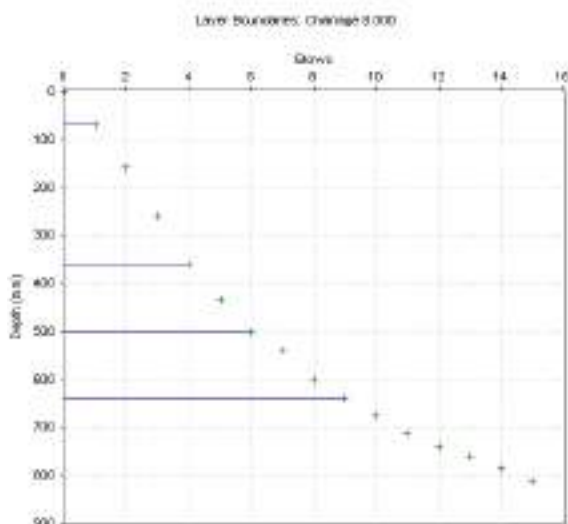
Remarks Surface material description: Grassed TOPSOIL

Dynamic Cone Penetrometer Strength Analysis Report

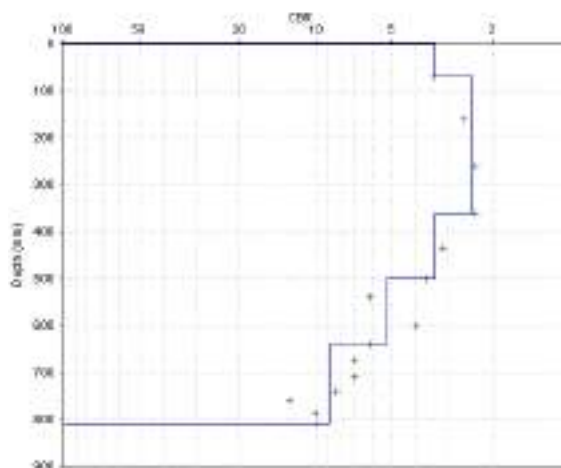
Site: The White Hosue Club
Location: CBR8 @ 0.0 mbgl
Cone Angle: 60 degrees
Zero Error: 150
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm / b)
1	0	0	150	0
2	1	1	220	70.0
3	1	2	310	90.0
4	1	3	410	100.0
5	1	4	510	100.0
6	1	5	585	75.0
7	1	6	650	65.0
8	1	7	690	40.0
9	1	8	750	60.0
10	1	9	790	40.0
11	1	10	825	35.0
12	1	11	860	35.0
13	1	12	890	30.0
14	1	13	910	20.0
15	1	14	935	25.0
16	1	15	960	25.0

[illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	3	70	70	220	
2	2	290	360	510	
3	3	140	500	650	
4	5	140	640	790	
5	9	170	810	960	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: Grassed TOPSOIL
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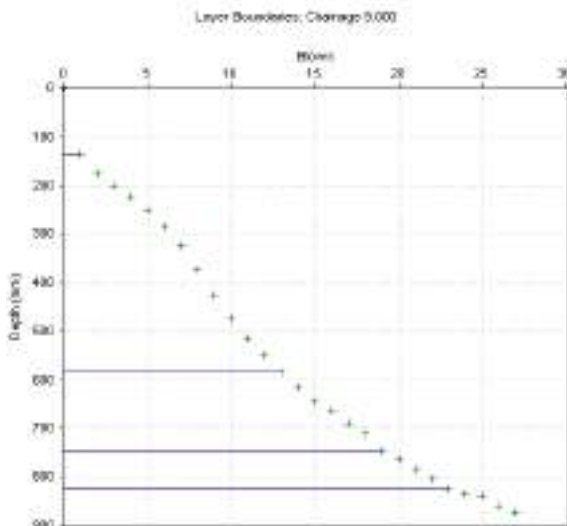


Dynamic Cone Penetrometer Strength Analysis Report

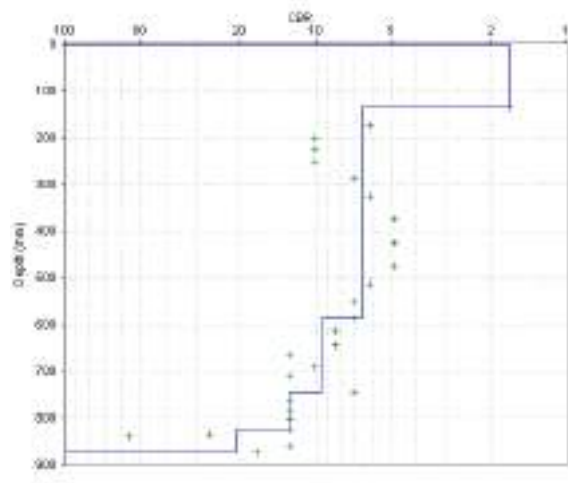
Site: The White Hosue Club
 Location: CBR9 @ 0.0mbgl
 Cone Angle: 60 degrees
 Zero Error: 75
 Test Date: 20/11/2019

Job Number: CCG-C-19-11308
 Surface Type: Natural
 Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	75	0	21	1	20	840	20.0
2	1	1	210	135.0	22	1	21	860	20.0
3	1	2	250	40.0	23	1	22	880	20.0
4	1	3	275	25.0	24	1	23	900	20.0
5	1	4	300	25.0	25	1	24	910	10.0
6	1	5	325	25.0	26	1	25	915	5.0
7	1	6	360	35.0	27	1	26	935	20.0
8	1	7	400	40.0	28	1	27	950	15.0
9	1	8	450	50.0					
10	1	9	500	50.0					
11	1	10	550	50.0					
12	1	11	590	40.0					
13	1	12	625	35.0					
14	1	13	660	35.0					
15	1	14	690	30.0					
16	1	15	720	30.0					
17	1	16	740	20.0					
18	1	17	765	25.0					
19	1	18	785	20.0					
20	1	19	820	35.0					



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	2	135	135	210	
2	7	450	585	660	
3	9	160	745	820	
4	13	80	825	900	
5	21	50	875	950	

CBR Derived by TDR equation

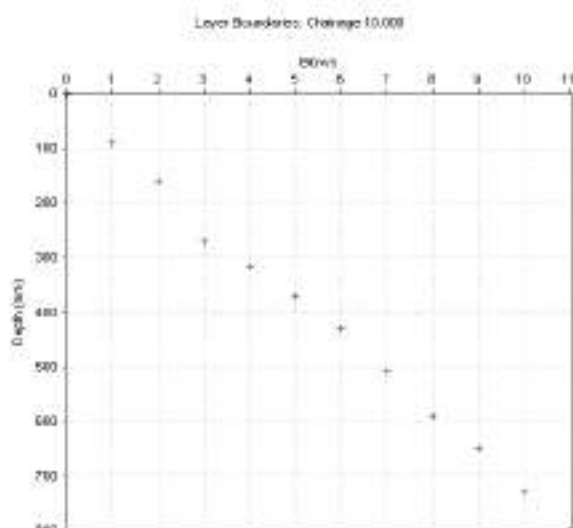
$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL

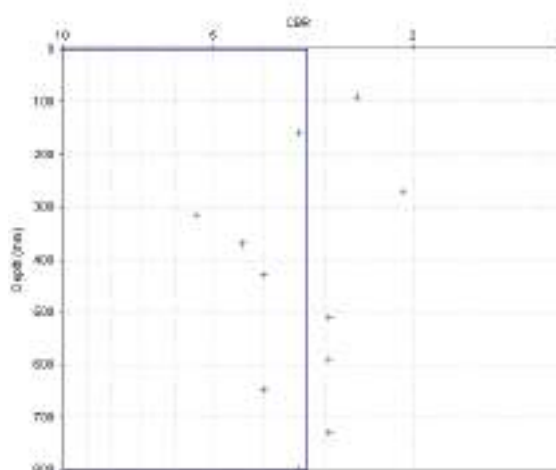
Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR10 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 160
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

[illegible][illegible]

Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	3	800	800	960	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks	Surface material description: Grassed TOPSOIL
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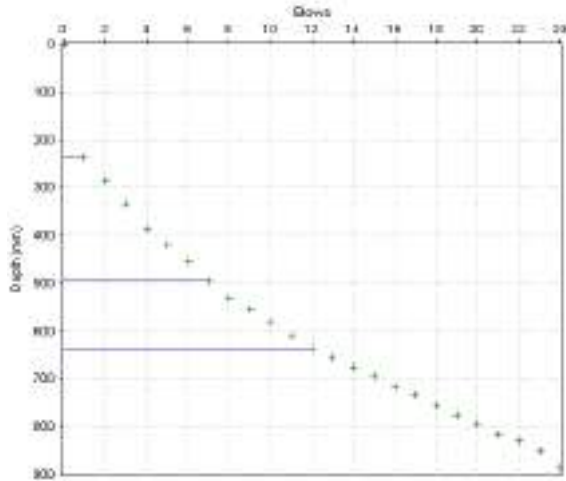
Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR11 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 75
Test Date: 20/11/2019

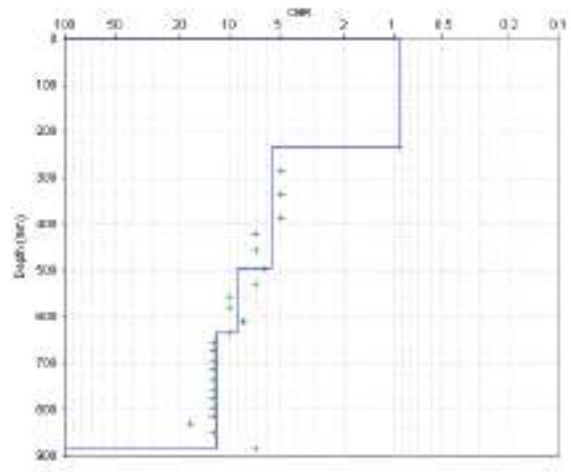
Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	75	0	21	1	20	870	20.0
2	1	1	310	235.0	22	1	21	890	20.0
3	1	2	360	50.0	23	1	22	905	15.0
4	1	3	410	50.0	24	1	23	925	20.0
5	1	4	460	50.0	25	1	24	960	35.0
6	1	5	495	35.0					
7	1	6	530	35.0					
8	1	7	570	40.0					
9	1	8	605	35.0					
10	1	9	630	25.0					
11	1	10	655	25.0					
12	1	11	685	30.0					
13	1	12	710	25.0					
14	1	13	730	20.0					
15	1	14	750	20.0					
16	1	15	770	20.0					
17	1	16	790	20.0					
18	1	17	810	20.0					
19	1	18	830	20.0					
20	1	19	850	20.0					

Layer boundaries: (Storage 11 300)



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	1	235	235	210	
2	6	260	495	570	
3	9	140	365	440	
4	12	250	885	960	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL

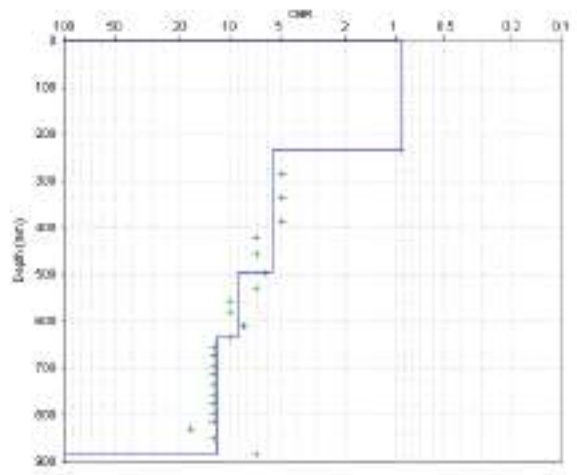
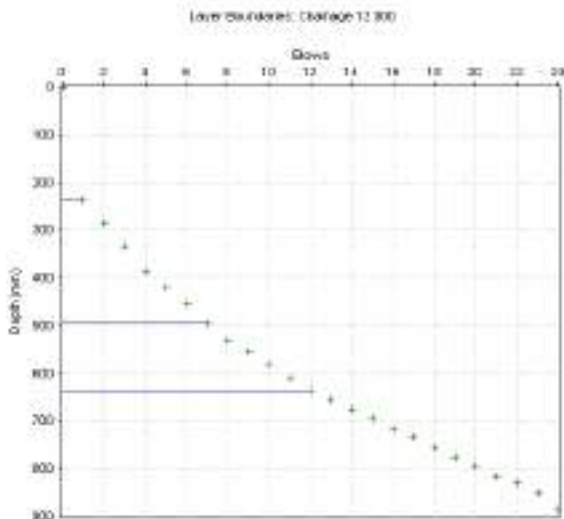


Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
Location: CBR12 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 75
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	75	0	21	1	20	870	20.0
2	1	1	310	235.0	22	1	21	890	20.0
3	1	2	360	50.0	23	1	22	905	15.0
4	1	3	410	50.0	24	1	23	925	20.0
5	1	4	460	50.0	25	1	24	960	35.0
6	1	5	495	35.0					
7	1	6	530	35.0					
8	1	7	570	40.0					
9	1	8	605	35.0					
10	1	9	630	25.0					
11	1	10	655	25.0					
12	1	11	685	30.0					
13	1	12	710	25.0					
14	1	13	730	20.0					
15	1	14	750	20.0					
16	1	15	770	20.0					
17	1	16	790	20.0					
18	1	17	810	20.0					
19	1	18	830	20.0					
20	1	19	850	20.0					



Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	1	235	235	310	
2	6	260	495	570	
3	9	140	635	710	
4	12	250	885	960	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL

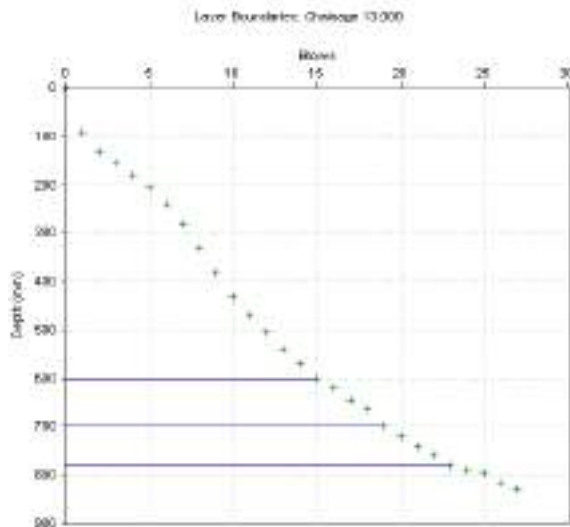


Dynamic Cone Penetrometer Strength Analysis Report

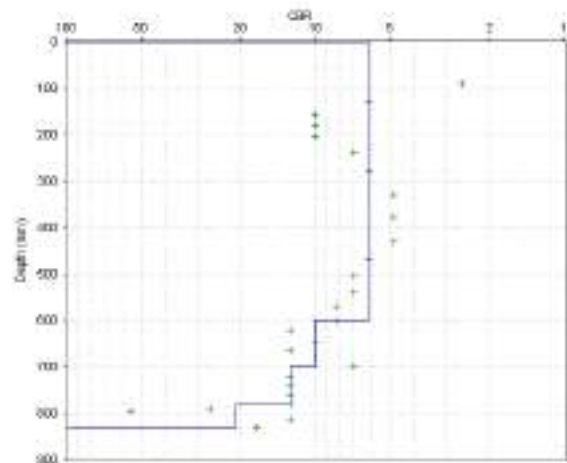
Site: The White Hosue Club
Location: CBR13 @ 0.0mbgl
Cone Angle: 60 degrees
Zero Error: 120
Test Date: 20/11/2019

Job Number: CCG-C-19-11308
Surface Type: Natural
Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	120	0	21	1	20	840	20.0
2	1	1	210	90.0	22	1	21	860	20.0
3	1	2	250	40.0	23	1	22	880	20.0
4	1	3	275	25.0	24	1	23	900	20.0
5	1	4	300	25.0	25	1	24	910	10.0
6	1	5	325	25.0	26	1	25	915	5.0
7	1	6	360	35.0	27	1	26	935	20.0
8	1	7	400	40.0	28	1	27	950	15.0
9	1	8	450	50.0					
10	1	9	500	50.0					
11	1	10	550	50.0					
12	1	11	590	40.0					
13	1	12	625	35.0					
14	1	13	660	35.0					
15	1	14	690	30.0					
16	1	15	720	30.0					
17	1	16	740	20.0					
18	1	17	765	25.0					
19	1	18	785	20.0					
20	1	19	820	35.0					



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	6	600	600	720	
2	10	100	700	820	
3	13	80	780	900	
4	21	50	830	950	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL

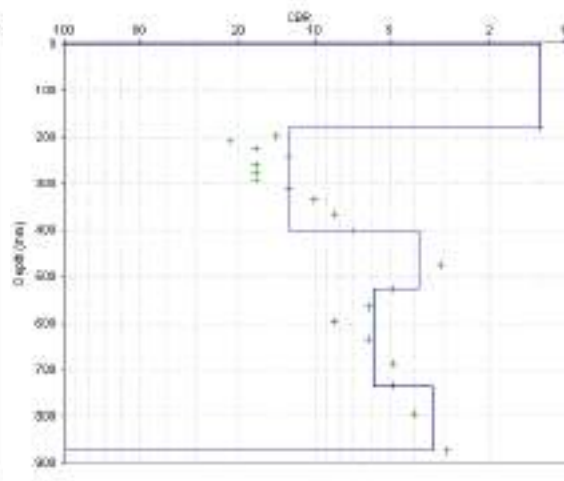
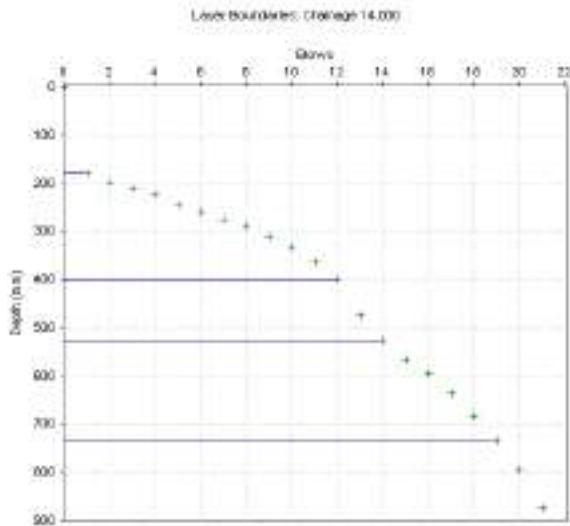


Dynamic Cone Penetrometer Strength Analysis Report

Site: The White Hosue Club
 Location: CBR14 @ 0.0mbgl
 Cone Angle: 60 degrees
 Zero Error: 75
 Test Date: 20/11/2019

Job Number: CCG-C-19-11308
 Surface Type: Natural
 Thickness (mm): 0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	75	0	21	1	20	870	60.0
2	1	1	255	180.0	22	1	21	950	80.0
3	1	2	273	18.0					
4	1	3	285	12.0					
5	1	4	300	15.0					
6	1	5	320	20.0					
7	1	6	335	15.0					
8	1	7	350	15.0					
9	1	8	365	15.0					
10	1	9	385	20.0					
11	1	10	410	25.0					
12	1	11	440	30.0					
13	1	12	475	35.0					
14	1	13	550	75.0					
15	1	14	600	50.0					
16	1	15	640	40.0					
17	1	16	670	30.0					
18	1	17	710	40.0					
19	1	18	760	50.0					
20	1	19	810	50.0					



Layer Properties

No.	CBR value	Thickness	Depth	Depth mmbgl	Strength Coefficient
1	1	180	180	255	
2	13	220	400	475	
3	4	125	525	600	
4	6	210	735	810	
5	3	140	875	950	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL

**APPENDIX M: CURRENT CONTAMINATED LAND LEGISLATION /
GUIDANCE & ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY**

CURRENT CONTAMINATED LAND LEGISLATION / GUIDANCE & ENVIRONMENTAL RISK ASSESSMENT METHODOLOGY

LEGISLATION OVERVIEW

This report includes hazard identification and risk assessment in line with the risk-based methods referred to in relevant UK legislation and guidance. Government environmental policy is based upon a "suitable for use approach". When considering the current use of land, Part IIA of the Environment Protection Act 1990 (EPA 1990) provides the regulatory regime, which was introduced by Section 57 of the Environment Act 1995, which came into force in England on 1 April 2000. The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment given the current use and circumstances of the land.

Part IIA provides a statutory definition of contaminated land under Section 78A(2) as:

"any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused;
- or
- (b) Pollution of controlled waters is being, or is likely to be, caused."

Part IIA provides a statutory definition of the pollution of controlled waters under Section 78A(9) as:

"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter".

In order to assist in establishing if there is a "significant possibility of significant harm" there must be a "significant pollutant linkage" for potential harm to exist. That means there must be a source(s) of contamination, sensitive receptors present and a connection or pathway between the two. This combination of source-pathway-receptor is termed a "pollutant linkage or SPR linkage."

Part IIA of The Environmental Protection Act 1990 is supported by a substantial quantity of guidance and other Regulations, especially DEFRA Circular 01/2006 Contaminated Land (this replaces DETR Circular 02/2000). Part IIA defines the duties of Local Authorities in dealing with it. With the exception of situations of very high pollution risk, Part IIA places contaminated land responsibility on the planning and redevelopment process. In situations where there is very high pollution risk direct action from the Local Authority is usually necessary. Planning Policy Statement 23 (PPS23) provides guidance on the planning process and requires that sites which have been developed shall not be capable of being determined "contaminated land" under Part IIA.

The criteria for assessing levels of pollutants and hence determining whether a site represents a hazard are based on a range of techniques, models and guidance. Within this context it is relevant to note that Government objectives are:

- (a) to identify and remove unacceptable risks to human health and the environment;
- (b) to seek to bring damaged land back into beneficial use;
- (c) to seek to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

These three objectives underlie the "suitable for use" approach to remediation of contaminated land. The "suitable for use" approach focuses on the risks caused by land contamination. The approach recognises that the risks presented by any given level of contamination will vary greatly according to the use of the land and a wide range of other factors, such as the underlying geology of the site. Risks therefore should be assessed on a site-by-site basis.

The "suitable for use" approach then consists of three elements:

- (a) ensuring that land is suitable for its current use - in other words, identifying any land where contamination is causing unacceptable risks to human health and the environment, assessed on the basis of the current use and circumstances of the land, and returning such land to a condition where such risks no longer arise; the contaminated land regime provides the regulatory mechanisms to achieve this;
- (b) ensuring that land is made suitable for any new use, as planning permission is given for that new use - in other words, assessing the potential risks from contamination, on the basis of the proposed future use and circumstances, before official permission is given for the development and, where necessary to avoid unacceptable risks to human health and the environment, remediating the land before the new use commences; this is the role of the town and country planning and building control regimes; and
- (c) limiting requirements for remediation to the work necessary to prevent unacceptable risks to human health or the environment in relation to the current use or future use of the land for which planning permission is being sought - in other words, recognising that the risks from contaminated land can be satisfactorily assessed only in the context of specific uses of the land (whether current or proposed), and that any attempt to guess what might be needed at some time in the future for other uses is likely to result either in premature work (thereby running the risk of distorting social, economic and environmental priorities) or in unnecessary work (thereby wasting resources).

The mere presence of pollutants does not therefore necessarily warrant action, and consideration must be given to the scale of risk involved for the current and proposed end use of the site.

RISK ASSESSMENT METHODOLOGY

Current practice recommends that the determination of potential liabilities that could arise from land contamination be carried out using the process of risk assessment, whereby "risk" is defined as:

- "(a) The probability, or frequency, or occurrence of a defined hazard; and
- (b) The magnitude (including the seriousness) of the consequences."

The UK's approach to the assessment of environmental risk is set out in by the Department of the Environment (2000) publication "A Guide to Risk Assessment and Risk Management for Environmental Protection." This established an iterative, systematic staged process which comprises:

- (a) Hazard identification
- (b) Hazard assessment
- (c) Risk estimation
- (d) Risk evaluation
- (e) Risk Assessment

At each stage during the investigation process the above steps are repeated as more detailed information becomes available for the site.

CLR11- 'Model Procedures for the Management of Land Contamination', a document published by the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency (EA) outlines a tiered approach to the assessment of risks posed by contaminated land, as summarised hereunder:

Tier 1: Preliminary Risk Assessment

A Preliminary Risk Assessment is usually undertaken as part of a desk study, outlines potential risks posed by potential contamination to all receptors by defining plausible "pollution linkages" and developing a preliminary conceptual model (PCM). The purpose of this model is to define all possible complete pollution linkages, where the requisite source – pathway – target elements are present, and these elements being defined as:

- a contaminant (source) is a hazardous substance or agent, present at levels that have the potential to cause harm or damage a receptor
- a pathway is the means by or through which a contaminant comes into contact with, or otherwise affects, the receptor
- a receptor (target) is an entity (human being, aquatic environment, flora and fauna etc) that is vulnerable to the adverse effects of the contaminant

This relationship is termed a "pollution linkage". It should be recognised that for a health or environmental risk to exist, all three elements of the relationship or linkage must be present, i.e.

- if there is no contaminant, or contaminant present at levels below those considered to be harmful or damaging to a receptor, then there can be no adverse effect on a receptor
- if there is no receptor present that can be adversely affected by a contaminant, no harm or damage can arise
- even where both a contaminant and a receptor are present, no harm or damage will occur if there is no pathway by or through which a linkage between the two can be established

The absence of one or more of each component (source, pathway, receptor) would prevent a pollutant linkage being established and there would be no significant environmental risk.

The PCM is subject to continual refinement as additional data becomes available. As part of a Phase I Investigation (Desk Study and site walk over) a PCM is formed. Based on the PCM, potential pollutant linkages can be assessed. If the PCM and hazard assessment indicate that a pollution linkage is not of significance then no further assessment or action is required due to this linkage. For each significant and possible linkage a risk assessment is carried out. The linkages which potentially pose significant risks may require a variety of responses ranging from immediate remedial action or risk management or, more commonly, further investigation and risk assessment. This next stage is usually termed a Phase II Main Site Investigation and should provide additional data to allow refinement of the PCM and assess the level of risk from each pollutant linkage. Risk assessment will usually include Tier 2 Generic Quantitative Risk Assessment and / or, if necessary, a Tier 3 Detailed Quantitative Risk Assessment.

Tier 2: Generic Quantitative Risk Assessment (GQRA)

GQRA requires an intrusive investigation in order to characterise the site assisting in the re-assessment of the source-pathway receptor linkage. The conceptual model should be refined accordingly.

Upon completion of an intrusive investigation it must be decided whether Generic Assessment Criteria (GAC) are suitable for assessing the risk posed by observed contamination at the site. If GAC are deemed unacceptable for risk assessment purposes or cannot be developed, a Tier 3 Detailed Quantitative Risk Assessment (DQRA) is required.

If GQRA reveals that unacceptable risks are not present then no further action is required. If GQRA identifies a possibility of risk, a decision must be made whether further work is required or necessary for the purposes of risk assessment. If further risk assessment is deemed not suitable not required an Options Appraisal should be undertaken. If further risk assessment is required, the scope nature of further risk assessment must be decided – it is possible that a Tier 3 DQRA will be undertaken in this scenario.

Where the Environment Agency have published an SGV for a contaminant, this will be used in the GQRA. For contaminants where an SGV has not been published and an S4UL has been published by LQM/CIEH S4UL's, then this S4UL will be used.

Where an SGV or an S4UL is not available, and a DEFRA C4SL is available, then this C4SL will be used. In house derived GAC's will only be used for contaminants where there is no SGV or LQM S4UL or DEFRA C4SL.

Tier 3: Detailed Quantitative Risk Assessment (DQRA)

DQRA is used when pollutant linkages require further assessment. DQRA is often undertaken for pollutant linkages where GAC are unavailable or inappropriate for or more conservative than the actual circumstances of the site. Site specific data is used to create Site Specific Assessment Criteria (SSAC) and enable a more accurate assessment of the risks. Further investigation may or may not be required to formulate SSAC depending on the site specific conditions and information already obtained.

If DQRA reveals that unacceptable risks are not present then no further action is required. If DQRA identifies a possibility of risk, a decision must be made whether further work is required or necessary for the purposes of risk assessment. If further risk assessment is deemed not suitable not required an Options Appraisal should be undertaken. If further risk assessment is required, the scope and nature of further risk assessment must be decided at this point.

NOTE: A Tier 1 Preliminary Risk Assessment is undertaken as part of a Desk Study Report and a Preliminary Conceptual Model is developed for all pollutant linkages. However, the methodologies for assessing the risks to human health, risks to controlled waters and risk posed by ground gas using quantitative techniques vary considerably, therefore GQRA and DQRA for human health, controlled waters and ground gas must be undertaken separately. The risk assessment methodologies where quantitative assessment is used for risks to human health, risks to controlled waters and risks posed by ground gas, if relevant, are described hereunder.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED TO HUMAN HEALTH

Background

In March 2002, the Department for Environment, Food and Rural Affairs (DEFRA) and the EA published the Contaminated Land Exposure Assessment (CLEA) Model and a series of related reports. These were designed to provide a scientifically based framework for the assessment of chronic risks to human health from contaminated land. These reports (CLR7-10) together with associated "SGV" documents have since been withdrawn (August 2008) and the following documents have been published as revised guidance to the CLEA assessment:

- Environment Agency : 2008: Updated Technical Background to the CLEA model Science Report SC050021/SR3
- Environment Agency : 2008: Human Health Toxicological Assessment of Contaminants in Soil SC050021/SR2

Additional guidance on statistical assessment replacing CLR 7 is provided in:

- CL:AIRE :2008 Guidance on Comparing Data With a Critical Concentration

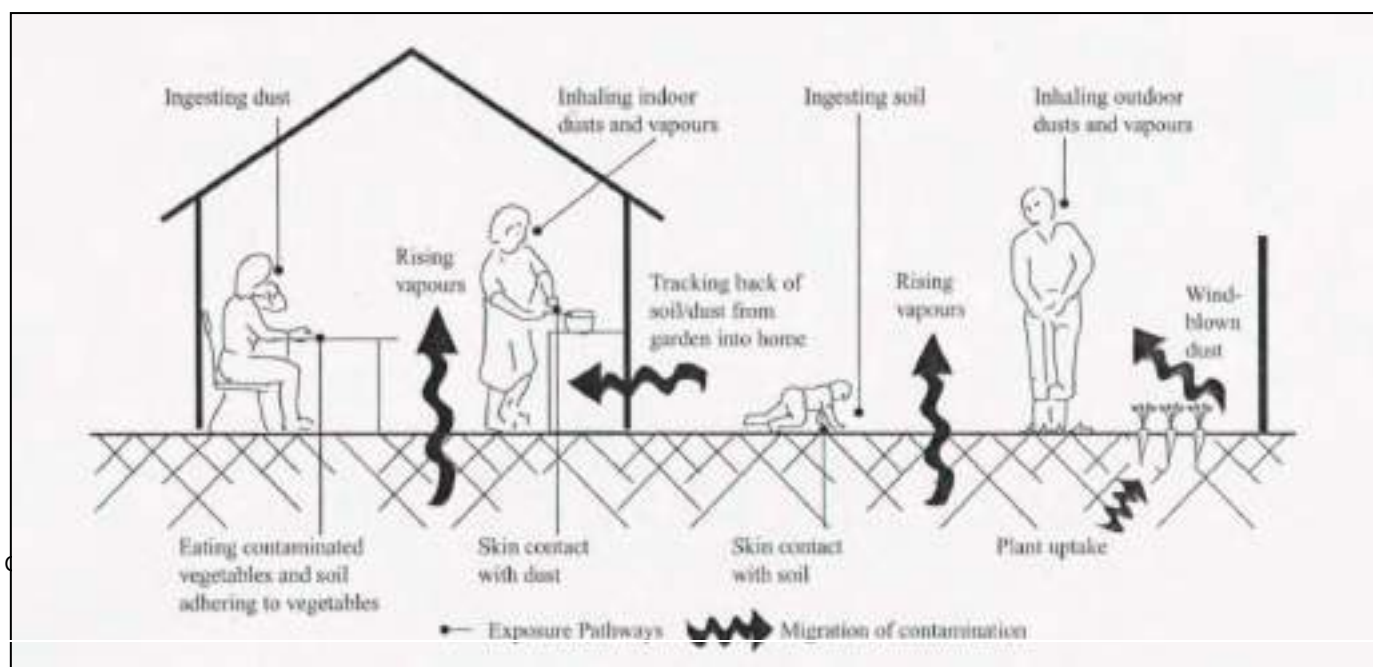
Other guidance/software used in spatial / statistical assessment is provided in:

- USEPA 2006: Data Quality Assessment: Statistical Methods for Practitioners
- Spatial Analysis and Decision Assistance (SADA) – The University of Tennessee

A different approach to the statistical appraisal of data is required depending on whether the assessment of risk is to assess whether land is Contaminated Land in accordance with regulations, or whether the assessment is to determine whether the site is suitable for new development in accordance with Planning guidance. This is discussed further in CL:AIRE :2008 "Guidance on Comparing Data With a Critical Concentration".

A program for the derivation of GAC's based on the above guidance is provided by the Environment Agency and is entitled "CLEA Software Version 1.06".

The CLEA model has been developed to calculate an estimated tolerable daily soil intake (TDSI) for site users given a set 'default' exposure pathways. Ten human exposure pathways are covered in the CLEA model as presented below:



(

Ingestion

- ingestion of outdoor soil
- ingestion of indoor dust
- ingestion of home grown produce
- ingestion of soil attached to home grown produce

Dermal Contact

- dermal contact with outdoor soil
- dermal contact with indoor dust

Inhalation

- inhalation of outdoor dust
- inhalation of indoor dust
- inhalation of outdoor soil vapour
- inhalation of indoor soil vapour

It should be noted that there are other potential exposure pathways on some sites not included in the CLEA model e.g. certain organic compounds can pass through plastic water pipes into drinking water supply.

Where contaminated water is present at a depth less than 2mbgl and there is a potential risk of inhalation of vapours (only when volatile compounds are present) the risk from inhalation of vapours from soil water will be assessed using a UK compliant version of BP Risc v4.02.

The presence and/or significance of each of the above exposure pathways are dependent on the type of land use being considered and the nature of the contaminant under scrutiny. Accordingly, the CLEA model considers for principle 'default' land use types and makes a series of 'default' assumptions with regard to human exposure frequency, duration and critical human target groups for each land use considered:

- residential
- allotments
- commercial / industrial land use

The above land use categories defined in the CLEA are detailed below:

Residential: This generic scenario assumes a typical residential property consisting of a two-storey house built on a ground-bearing slab with a private garden consisting of lawn, flowerbeds, and a small fruit and vegetable patch. The occupants are assumed to be parents with young children, who make regular use of the garden area.

Allotments: This generic scenario assumes a plot of open space (about 250 m²), commonly made available by the local authority to tenants to grow fruit and vegetables for their own consumption. There are usually several plots to a site and the overall site area may cover more than a hectare. The tenants are assumed to be parents or grandparents and that young children make occasional accompanied visits to the plot.

Commercial/Industrial: There are many different kinds of workplace and work-related activities. This generic scenario assumes a typical commercial or light industrial property consisting of a threestorey building at which employees spend most time indoors and are involved in officebased or relatively light physical work.

Human Health Risk Assessment Methodology

Assessment of risk for the protection of human health is undertaken using the methodology as outlined previously, and summarised hereunder:

- Tier 1 Preliminary Risk Assessment
- Tier 2 Generic Quantitative Risk Assessment
- Tier 3 Detailed Quantitative Risk Assessment

The Tier 1 Preliminary Risk Assessment is undertaken as part of the desk study report and includes the development of a Preliminary Conceptual Model. Tier 2 and Tier 3 Quantitative Risk Assessments are undertaken in order to develop and refine the Preliminary Conceptual Model aiding a more detailed assessment of the risk posed by contaminants revealed by site investigation and soil / soil water chemical analyses.

The methods used by *CC GEOTECHNICAL LTD* to derive assessment criteria, to statistically analyse chemical data and to compare chemical data to the derived assessment criteria are discussed herunder.

Derivation of Generic Assessment Criteria (GAC) and Site Specific Assessment Criteria (SSAC)

GAC's are derived on the basis of the proposed land use and the associated applicable exposure pathways. It should be noted that there are difficulties in establishing soil concentrations of contaminants beyond which risks from exposure to these contaminants would be 'unacceptable' and the GAC value does not necessarily equate to the level for "significant possibility of significant harm" as defined in Part IIA of The Environmental Protection Act (1990) to determine whether land is "contaminated." This ultimately requires detailed 'toxicological' information of the health effects of individual contaminants and also a scientific judgement on what constitutes an 'unacceptable' risk. The primary purpose of the CLEA derived GAC's are as 'minimal risk thresholds' for the assessment of human health risks in relation to land use.

Minimal risk thresholds calculated using generic input parameters for each of the above land uses are termed Generic Assessment Criteria (GAC) and are used for Generic Quantitative Risk Assessment (GQRA). However, further assessment may be required taking into consideration site specific factors such as the way the land is used, the soil type, the building

characteristics and the exact nature of the receptor, to determine whether there is a significant possibility of risk to human health to site users. Such an assessment is known as a Detailed Quantitative Risk Assessment (DQRA) and the resultant threshold concentrations are known as Site Specific Assessment Criteria (SSAC). Such assessments should be conducted with the agreement of the local authority (or the Environment Agency) since it is the authority that determines whether land is Contaminated Land or whether Planning Permission for a new development may be granted.

For the purposes of this report, assessment criteria have been derived in accordance with current guidance based on the conceptual model for the proposed land use using the CLEA v1.06 software. These criteria are not intended to indicate whether the site may be contaminated land nor do they replace any published soil guideline values. However, the values are intended to provide guidance for the local authority on whether the site may be considered uncontaminated. If, based on the site's proposed future use, the site would be considered by the local authority to be uncontaminated and therefore, on the basis of soil concentrations, fit for purpose, then no further risk assessment based on soil concentrations and the risk to human health would be necessary. However, should these criteria be exceeded or the conceptual site model vary from the model used in the risk assessment to derive these values then the risk assessment should be updated accordingly.

For contaminants routinely analysed where inhalation is a significant pathway (naphthalene, phenanthrene, Aromatic EC5-EC7, Aromatic EC7-EC8, Aromatic EC8-EC10, Aromatic EC10-EC12, Aromatic EC12-EC16, Aliphatic EC5-EC6, Aliphatic EC8-EC10, Aliphatic EC10-EC12, Aliphatic EC12-EC16), plots of the GAC as a function of Soil Organic Matter (SOM) are used to determine if they pose a potential risk to human health, which are presented hereunder. Where there is an exceedance further assessment may be undertaken.

Statistical Assessment of Soil Contamination Data & Comparison of Contamination Data to Threshold Values

In any site investigation only a small fraction of the soil on the site is analysed. Therefore the mean derived from the contamination data for a contaminant may not be the same as the true mean for the contaminant distribution on the site. To improve the reliability of any assessment a statistical analysis is undertaken in line with the CL:AIRE document "Guidance on Comparing Soil Contamination Data with a Critical Concentration".

Statistical assessment of soil data is undertaken using programs based on the guidance in the CL:AIRE document or the USEPA software ProUCL v4.0.

Where the number of results in a dataset is less than four, a statistical assessment is not undertaken, and the assessment is performed by comparison of the maximum value(s) with a Health Criteria Value (HCV), such as Generic Assessment Criteria value(s).

For the Planning situation, the regulator needs to check whether the concentration of contaminants is low compared to the HCV. This decision is based on whether there is at least a 95% confidence level that the true mean of the dataset is lower than the HCV.

For the Part IIA scenario the regulator needs to determine whether the concentration of contaminants is greater than the HCV. This decision is based on whether there is at least a 95% confidence level that the true mean of the dataset is higher than the HCV. However, the regulator may proceed with determination if there is just a 51% probability, "on the balance of probabilities".

The Outlier Test used in the statistical assessment may not be able to identify separate populations if numerous populations are present. In order to ensure that this is not the case a spatial assessment of the data will be undertaken using SADA.

If the screening levels are exceeded then more sophisticated quantitative risk assessment or remedial action may be undertaken. The benefits of undertaking a quantitative risk assessment must be weighed against the likelihood that it will bring about cost savings in the proposed remediation.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED TO CONTROLLED WATER

Definition of Controlled Waters

The term 'controlled waters' is defined in Section 104 of the Water Resources Act 1991 as:

"Territorial Waters...which extend seawards for three miles..., coastal waters..., inland freshwaters, waters in any relevant lake or pond or of so much of any relevant river or watercourse as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata."

Note that the definition of groundwater under the Water Resources Act 1991 includes all water within underground strata (including soil / pore water in the unsaturated zone). The definition of groundwater under the Groundwater Directive however is limited to water in the saturated zone. For the purposes of Part IIA of the Environmental Protection Act 1990, the Environment Agency recommends that the groundwater within the saturated zone only is considered as the receptor (rather than soil / pore water).

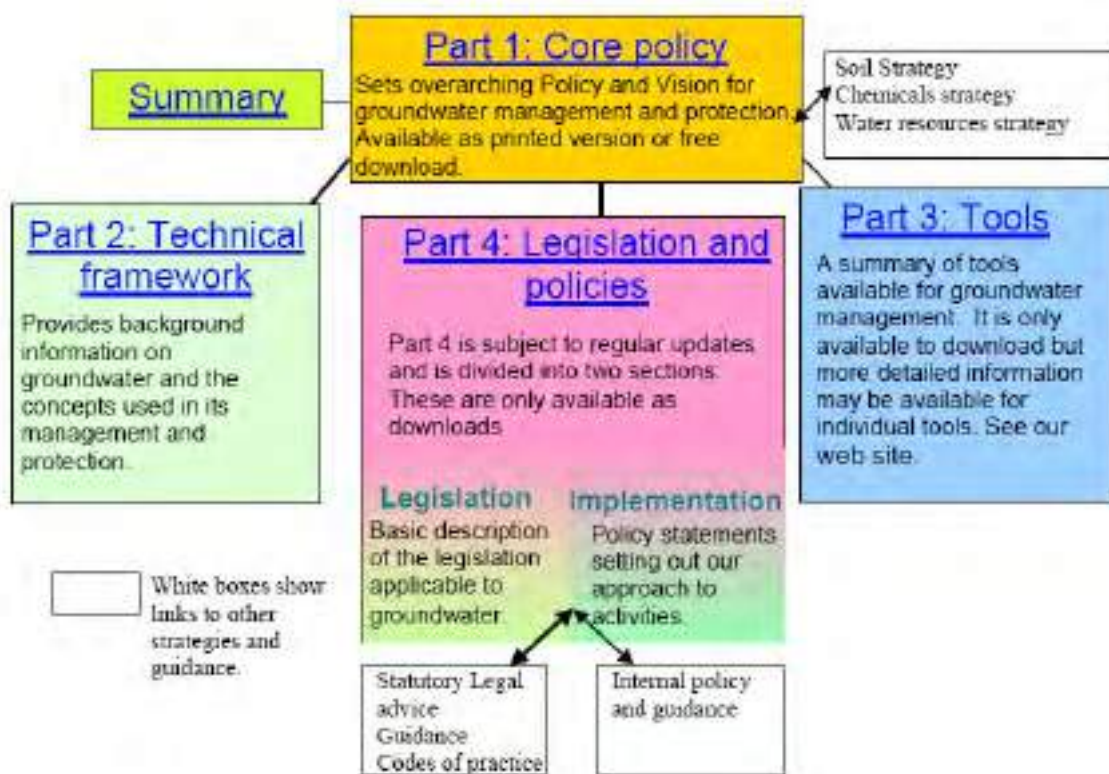
Environment Agency Guidance

Legislation and guidance surrounding the protection of controlled waters in the UK is abundant and can be complex. The Environment Agency's overall position on groundwater is *"To protect and manage groundwater resources for present and future generation in ways that are appropriate for the risks that we identify"* (Groundwater Protection : Policy and Practice GP3, 2006). In brief, the core objectives of the existing legislation serve to enforce this position.

In 1992, the National Rivers Authority published their Policy and Practice for the Protection of Groundwater (PPPG), this document was influential as it provided a focus for key developments such as Source Protection Zones (SPZs) and

Groundwater Vulnerability Maps. The Policy was then revised in 1998, since which there have been substantial changes in legislation, driven by Europe. Key European Directives relating to groundwater include the Groundwater Directive (80/68/EEC) and the Water Framework Directive (2000/60/EC). Aspects of these directives are controlled by primary UK legislation such as the Water Resources Act 1991. Further to legislative changes, gaps identified in the 1998 PPPG required addressing. These changes are reflected in the forthcoming Environment Agency Policy document entitled *Groundwater Protection : Policy and Practice (GP3)*, a draft version of which was available for public consultation (Parts 1 to 3) ending July 2006 with Part 4 issued in March 2008. Part 4 includes a section on key groundwater legislation and the Environment Agency's interpretation of it.

The following gives a breakdown of the structure of the document (taken from the Environment Agency GP3 draft consultation document, 2006)



Controlled Water Risk Assessment Methodology

The risk posed to controlled water is assessed by CC *GEOTECHNICAL* in accordance with current guidance as outlined hereunder.

In order for a developer of a potentially contaminated site to fulfil their obligations under the legislation, a site assessment would be required to be undertaken in order to identify any potential risks to controlled waters and to derive suitable clean-up criteria if necessary to ensure the protection of controlled waters. The general approach for Groundwater Protection is detailed further in Part 3 of GP3.

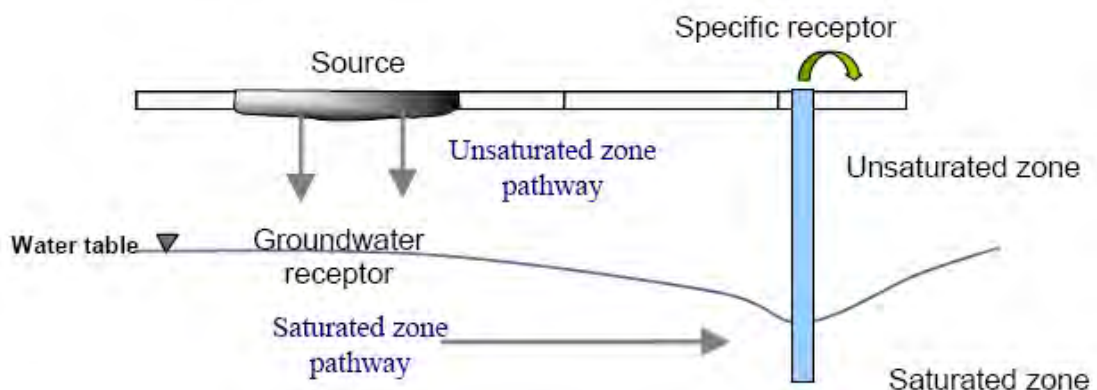
When assessing groundwater impact the Environment Agency advocate the application of their framework methodology "Remedial Targets Methodology – Hydrogeological Risk Assessment for Land Contamination" Environment Agency (2006). The methodology has four levels of assessment as described below:

- Level 1 considers whether contaminant concentrations in "pore water" in contaminated soil are sufficient to impact on the receptor, ignoring dilution, dispersion and attenuation along the pathway. The "pore water" concentration is determined from:
 - i) measured "pore water" concentrations or perched water quality
 - ii) soil leaching tests
 - iii) theoretical calculations based on soil/water partitioning equations
- Level 2 considers dilution by the receiving groundwater or surface water body and whether this is sufficient to reduce contaminant concentrations to acceptable levels. The remedial target is defined as the target concentration multiplied by a dilution factor (DF).
- Levels 3 and 4 consider whether natural attenuation (including dispersion, retardation and degradation) of the contaminant as it moves through the unsaturated and saturated zones to the receptor are sufficient to reduce contaminant concentrations to acceptable levels. The remedial target is defined as target concentration multiplied by a dilution factor (DF) and attenuation factor (AF). In Level 3 simple analytical models are used to calculate the significance of attenuation. The Environment Agency has released a "Remedial targets worksheet v3.1" to carry out basic calculations using a conservative approach up to Level 3 using basic principles assuming a simple migration of contaminants from the

source zone into the aquifer receptor. Level 4 assessment uses more sophisticated numerical models, and allows for the introduction of additional geological horizons and is used mainly to determine whether soil contaminants will reach their target within a specified timeframe. Use of such software should only be used once agreement has been obtained from the Environment Agency.

Three main stages apply to any risk assessment of controlled waters, these are:

1. Risk Screening (Tier 1 Preliminary Risk Assessment): The understanding of the Conceptual Site Model (CSM) is the key to assessing any site. Using a robust CSM, potential pathways or receptors may be screened out from any further assessment at an early stage. For example if the pathway through the unsaturated zone is blocked by the presence of a significant thickness of low permeability clay. A greater understanding of the CSM is achieved with each tier of risk assessment. An example of a basic CSM is given below (taken from the Environment Agency GP3 draft consultation document, 2006):



2. Generic Hydrogeological Risk Assessment (EA Remedial Targets Methodology Level 1): When undertaking the Generic Hydrogeological Risk Assessment (EA Remedial Targets Methodology Tier 1), comparison of chemical analytical results is made with screening criteria. Published values of screening criteria with which chemical test results can be compared are published in the following guidance:

- Water Supply (Water Quality) Regulations 2000
- The Private Water Supplies Regulations 1991
- Environmental Quality Standards for surface waters based on The EC Dangerous Substances Directive (76/464/EEC and Daughter Directives)
- The Surface Waters (Abstraction for Drinking Water Classification) Regulations 1996
- World Health Organisation Drinking Water Standards 2004

Should the Level 1 assessment indicate threshold levels to be exceeded, then there are three alternative ways in which to proceed:

- To devise suitable remedial solutions
- To carry out more investigation, sampling and analysis
- To conduct a site specific Detailed Quantitative Risk Assessment (DQRA) to determine if the materials are suitable for their proposed use, or devise site specific clean-up level

3. Detailed Quantitative Risk Assessment (EA Remedial Targets Methodology Levels 2 to 4): The decision to carry out a DQRA will be dependant on the extent and implications of the initial qualitative and generic assessment. The scope of any such assessment will be accurately defined by the outcomes of the previous levels of assessment. The conceptual model will be sufficiently refined by this stage that only certain contaminants of concern, certain pathways and certain receptors will require further assessment, the remainder having been screened out.

Additional site specific data is normally required for this stage of assessment, as explained above, more processes that are capable of affecting contaminant concentrations are considered (such as dilution and attenuation).

Remediation criteria, if derived, will therefore be specific to each site and will be based on a detailed assessment of the potential impact at the identified receptor or *compliance point*. A greater level of confidence can be placed on the predicted impact on the compliance point following a DQRA.

BACKGROUND INFORMATION, CURRENT GUIDANCE AND RISK ASSESSMENT METHODOLOGY FOR RISKS POSED BY GROUND GAS

Background

Origin of Ground and Landfill Gases

When carrying out a ground gas risk assessment, the origin or source of the gases is important as potential risks will vary depending on the source. This Appendix relates to the risk of the two main ground gases of concern; methane and carbon dioxide, and does not apply to other ground gases (e.g. radon or vapours from hydrocarbon spills). Methane and carbon dioxide are major constituents of landfill gas but can also occur from a variety of anthropogenic and natural sources, as summarised in Table 5 below:

Gas	Source	Comments
Landfill Gas	Anaerobic decomposition of degradable waste within landfill sites. Typically 60% methane and 40% carbon dioxide during methanogenic phase.	Composition varies over time, particularly in early stages. Contains a range of minor constituents (particularly carbon monoxide and hydrogen sulphide).
Landfill Associated Gases	- Anaerobic degradation of leachate external to the site; - Degassing of dissolved gases in groundwater; - Evolution of gases following interaction between leachate and groundwater	Can result in secondary (external) production of methane or carbon dioxide.
Made Ground	Anaerobic degradation of organic components	Very variable depending on source
Sewer Gas, Cess Pits	Anaerobic degradation of organic components of sewage producing methane and carbon dioxide.	Often characterised by hydrogen sulphide odour.
Mains Gas	Leakage from underground pipework or storage tanks. Mainly methane but often contains higher alkanes.	An odouriser is added to permit detection of leaks. Typically 90% CH ₄ , but 1 to 27% C ₂ -C ₄ alkanes, May also contain other trace gases e.g. CO, helium and CO ₂ (from degradation of CH ₄ in the ground).
Other Anthropogenic Sources	- Degradation of leaked or spilled hydrocarbons or other industrial chemicals; - Anaerobic degradation of organic contaminants in groundwaters (e.g. silage liquor); - Reactions between monitoring well construction components and environment; - Burial grounds/cemeteries.	Hydrocarbon spillages often have an 'oily' odour. Fuel spillages common – Petrol or Diesel and can contain a wide range of VOC's. Can degrade to produce methane / carbon dioxide.
Alluvium / Marsh / Peat Gas	Anaerobic microbial degradation of organic material (usually waterlogged vegetation / peat). Often associated with the presence of alluvial deposits or dredgings.	
Geogenic Gas	Natural seepages of carbon dioxide and hydrocarbon gases derived from geologic sources such as coal seams and deep oil / gas source formations. Can be present in solution in groundwaters.	Methane most common but can contain carbon dioxide and higher alkanes.
Mine Gases	Various types. Most common is "fire damp" with high methane, produced by the desorption of gas trapped in coal. "Black damp" (Stythe gas) with high carbon dioxide and denser than air. "White damp" is high in carbon monoxide.	Methane most common. Can contain higher alkanes, carbon dioxide and carbon monoxide. Often low in oxygen.
Natural Shallow Ground Gas	Various types - high carbon dioxide formed by subsurface aerobic activity leading to depleted oxygen and elevated carbon dioxide; - chemical degradation of rocks (e.g. carbonates) producing carbon dioxide; - carbon dioxide production in root zone of soils by plants.	Gases can be emitted from ground under falling barometric pressure conditions.

Table 5. Potential Sources of Ground Gases

This Appendix does not provide guidance for the assessment of risk when other gases are present due to 'Other Sources' from the above table (particularly organic compounds such as BTEX and VOC's or for the risk from radon or hydrogen sulphide).

To determine the origin of the gas a range of factors must be considered together, including;

1. Proximity of likely sources
2. Ground conditions (geology, hydrogeology, anthropogenic pathways etc)
3. Properties of gases present including:
 - Chemical composition
 - Physical properties
 - Ratios of components e.g. methane : carbon dioxide
4. Timeframe of activities such as infilling periods, capping works, installation of gas control systems etc

Identification of the originating source may be problematic given that there may be more than one source present and trace gas analysis may be required. Identification of the sources of the gases encountered during monitoring is usually carried out through a process of eliminating the most unlikely potential sources (given the site setting) and selecting those which are most likely.

Hazards Associated with Presence of Methane

Methane gas is combustible and potentially explosive. When the concentration of methane in air is between the limits of 5.0%v/v and 15.0%v/v an explosive mixture is formed. The Lower Explosive Limit (LEL) of methane is 5.0%v/v, which is equivalent to 100% LEL. The 15.0%v/v limit is known as the Upper Explosive Limit (UEL), but concentrations above this level cannot be assumed to represent safe concentrations. Further, the LEL and UEL will vary (up and down) depending upon the proportion of other gases (including oxygen). However, the fact that methane is a colourless, odourless gas means that there

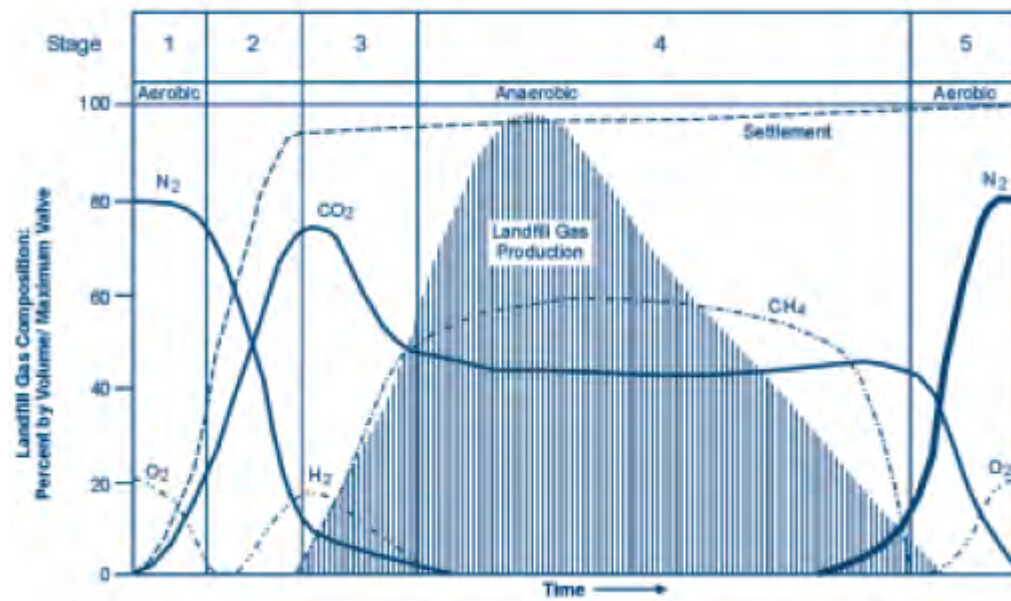
is no simple indicator of the presence of the gas until such a time as explosive limits are reached and an incident occurs. Methane is lighter than air and has a low toxicity. However, at high concentrations it can result in asphyxiation due to oxygen displacement.

Hazards Associated with Presence of Carbon Dioxide

Carbon dioxide is a colourless, odourless gas, which, although non-flammable, is both toxic and an asphyxiant. As carbon dioxide is denser than air, it will collect in low points and depressions. The UK Health & Safety Executive (HSE) has published information relating to concentrations of carbon dioxide that humans may be exposed to, which uses concentrations contained in the Control of Substances Hazardous to Health Regulations 2002 (as amended). These are the Long Term Occupational Exposure Limit (LTOEL, 8 hour period) and the Short Term Occupational Exposure Limit (STOEL, 15 minute period), which are 0.5% and 1.5% carbon dioxide, respectively.

Parameters Influencing the Rate of Ground Gas Production

The figure below is taken from EA guidance document LFTGN 03 illustrates typical ground gas generation curves from biodegradable materials:



The production of methane and carbon dioxide at a landfill site may be expected to be considerable and ongoing. Concentrations of methane will eventually decrease, followed by concentrations of carbon dioxide, but the duration and rate of gas production can vary markedly between sites. Five distinct phases of gas production occur during the process which are, in order of event as marked above, as follows:

1. An aerobic phase involving oxygen depletion and temperature increase through aerobic respiration;
2. The establishment of anaerobic conditions and the evolution of carbon dioxide and hydrogen through acidogenic activity;
3. Commencement of methanogenic activity; the establishment of populations of methanogenic bacteria;
4. A phase of stable methanogenic activity, which may go on for many tens of years;
5. A phase of decreasing methanogenic activity, representing depletion of the organic material and a return to aerobic conditions.

The time scale for the return to the normal ground gas concentrations will be highly variable, depending upon the types and quantities of materials present. In addition, the optimum parameters influencing the rate of decomposition and ground gas production within the ground at a site are as follows:

- High water content with adequate rainfall and water infiltration to provide moisture content between approximately 20 to 26%;
- Conditions that either are or are very close to anaerobic;
- High proportion of biodegradable materials;
- A pH between 6.5 and 8.5, ideally verging slightly on the acidic between pH 6 to 7;
- Temperature between 25°C and 55°C;
- The ratio of the biochemical and chemical oxygen demands (BOD:COD);
- High permeability;
- Small particle size, as finer subsurface materials possess a greater surface area to provide a growing 'face' for the micro-organisms but high fines levels reduces permeability and reduces decomposition rate.

For this reason, it is vital that sources of methane and carbon dioxide are identified prior to the commencement of any work on a construction site, and that the ground gas regime is characterised at the worst temporal conditions a site may experience. From this, a risk assessment is carried out to identify the risk at the site from ground gases so that suitable protection measures can be designed and incorporated into a development to prevent a dangerous build-up of gas occurring.

Factors Influencing the Migration and Behaviour of Ground Gases

There are many factors that influence the migration of ground gases which can effect the risk from a gassing source:

- driving force – pressure differential along a pathway, diffusion and dissolved in solution;
- meteorological conditions – short term and seasonal conditions including atmospheric pressure changes (e.g. rapidly falling pressure causes gas to expand increasing emission rates), rainfall, frozen ground and thawing, temperature;
- geological and groundwater conditions – these can have the over riding influence on the direction/pathways and quantity of migrating gas;
- anthropogenic influences – man-made pathways include mine shafts, service runs/drains, foundation piles, underground voids/pits/basements, foundation/building design/construction

Current Guidance

Previous versions of Building Regulations Approved Document C provided statutory guidance stating that consideration should be given to appropriate action and / or specific solutions in situations where methane concentration exceeded 1%v/v or carbon dioxide concentrations exceeded 5%v/v. The latest Building Regulations Approved Document C (DoE 2004) no longer endorses this approach and recommends the use of a risk based approach to interpreting a gas monitoring survey. This is in line with current EA guidance for landfill gas (LFTGN 03, 2004) which recommends the use of a structured risk based approach similar to that outlined in CLR 11. On this basis, recent guidance has been produced in 2006 and 2007 with the aim of providing up to date advice in relation to residential and commercial development. The guidance does not address issues associated with gas derived from landfills, for this refer to "*Guidance on the Management of Landfill Gas*" (Environment Agency 2004) for an overview.

Recent guidance relevant to gas assessments for residential and commercial development includes;

- Wilson *et al.* (CIRIA C665, December 2007) "**Assessing Risks Posed by Hazardous Ground Gases for Buildings.**"
This document provides up to date advice on all aspects of ground gas risk assessment such as investigation, monitoring programmes, data collection and interpretation. The guidance presents separate methodologies for the characterisation of:
 - All development types except low rise housing with gardens (Situation A)
 - Low rise housing with gardens (Situation B)
- Boyle and Witherington (NHBC / RSK Group, Report 10627-R01(04) January 2007) "**Guidance on the Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present.**"
This document presents the "Traffic Lights System" detailed below and is relevant only for low rise properties (e.g. bungalows and town houses) that have a ventilated sub-floor void (i.e. Situation B as described in CIRIA C665).
- British Standard (BS 8485 2015 +A1 2019) "*Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*"
This document provides an overview of gas characterisation and assessment. The Standard is intended to be used by designers of gas protection measures and regulators involved in the assessment of design solutions.

Further guidance, Wilson and Card (CIEH) "**Ground Gas Handbook for Designers and Regulators**" providing practical guidance on ground gas assessments and the design and evaluation of protection measures, is expected to be published in March 2009.

Each of these documents continues to highlight the importance of, and give further guidance towards, carrying out a tiered risk-based decision-making process in accord with government policy on dealing with contamination from historic or natural sources and highlight the importance of the Conceptual Model in site characterisation.

Ground Gas Risk Assessment Methodology

Assessment of risk posed by ground gas is undertaken using the methodology as outlined previously, and summarised hereunder:

- Tier 1 Preliminary Risk Assessment
- Tier 2 Generic Quantitative Risk Assessment
- Tier 3 Detailed Quantitative Risk Assessment

The methodology used in each of the above assessments with concern to ground gas is discussed hereunder.

Tier 1 Preliminary Risk Assessment

All potential sources of methane and carbon dioxide are identified in the Preliminary Conceptual Model and the generation potential determined. The background information discussed earlier is referred to in order to determine the potential for a source to generate ground gas.

CIRIA C665 provides idealised monitoring frequency / period dependant upon generation potential of gas source and sensitivity of the proposed land use as below:

Idealised Frequency and Period of Monitoring (after Table 5.5a and 5.5b, CIRIA C665)

		Generation Potential of Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4/1	6/2	6/3	12/6	12/12
	Moderate (Flats)	6/2	6/3	9/6	12/12	24/24
	High (Residential with Gardens)	6/3	9/6	12/6	24/12	24/24

Notes

1. First number is the number of readings and the second is the minimum period in months (e.g. 6/2 – six sets of readings over two months).
2. At least two sets of readings must be at low (preferably under 1,000 mb) and falling pressure.

The monitoring programme is decided using the above table prior to the intrusive site investigation. However, if the intrusive investigation reveals that a the potential source is better or worse than anticipated the monitoring programme should be modified accordingly. For example, if the made ground contains no evidence of organic material and comprises entirely granular brick fill, the potential for that made ground to generate ground gas is reduced considerably.

Tier 2 Generic Quantitative Risk Assessment

Generic Quantitative Risk Assessment is undertaken upon completion of the required gas monitoring period.

All three current guidance documents propose that both ground gas concentrations and flow rates are used to calculate the limiting gas well gas volume flow rates for methane and carbon dioxide, based on the ground gas conditions monitored for during the worse-case temporal conditions. This limiting gas well volume flow rate is termed the Gas Screening Value (GSV, note that this was termed borehole gas volume flow), and is calculated as follows:

$$GSV (l/hr) = \frac{[gas\ well\ gas\ concentration\ (\%v/v)] \times [gas\ well\ flow\ rate\ (l/hr)]}{100}$$

GSV's are compared to typical max concentrations and limiting gas screening values derived for either Situation A - All development except low rise housing with gardens, or Situation B low rise housing with gardens (NHBC Traffic Light System). Table 8.5 from CIRIA C665 is used for comparison of gas screening values for "Situation A Developments" and is presented hereunder:

Characteristic Situation (CIRIA R149)	Comparable Partners in Technology gas Regime (see Box 8.2)	Risk Classification	Gas Screening Value (CH ₄ or CO ₂) (l/hr) ¹	Additional Factors	Typical Source of Generation
1	A	Very low risk	<0.07	Typically methane ≤ 1% and/or carbon dioxide ≤ 5%. Otherwise consider increase to Situation 2	Natural soils with low organic content "Typical" made ground
2	B	Low risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to characteristic Situation 3	Natural soil, high peat/organic content. "Typical" made ground
3	C	Moderate risk	<3.5		Old landfill, inert waste, mineworking flooded
4	D	Moderate to high risk	<15	Quantitative risk assessment required to evaluate scope of protective measures.	Mineworking susceptible to flooding, completed landfill (WMP 26B criteria)
5	E	High risk	<70		Mineworking unflooded inactive with shallow workings near surface
6	F	Very high risk	>70		Recent landfill site

Table 8.5 from CIRIA C665 Modified Wilson and Card Classification

Table 8.7 is used for comparison of gas screening values for "Situation B Developments" and is presented herunder:

Traffic Light	Methane ¹		Carbon Dioxide ²	
	Typical max concentration ³ (% by volume)	Gas screening value ^{2,4} (litres/hour)	Typical max concentration ³ (% by volume)	Gas screening value ^{2,4} (litres/hour)
Green				
Amber 1	1	0.13	5	0.78
Amber 2	5	0.63	10	1.60
Red	20	1.60	30	3.10

Notes:

1. The worst-case ground gas regime identified on the site, either methane or carbon dioxide, at the worst-case temporal conditions that the site may be expected to encounter will be the decoder as to what Traffic Light is allocated;
2. Borehole Gas Volume Flow Rate, in litres per hour as defined in Wilson and Card (1999), is the borehole flow rate multiplied by the concentration in the air stream of the particular gas being considered;
3. The Typical Maximum Concentration can be exceeded in certain circumstances should the Conceptual Site Model indicate it is safe to do so;
4. The Gas Screening Value thresholds should not generally be exceeded without the completion of a detailed ground gas risk assessment taking into account site-specific conditions.

Table 8.7 from CIRIA C665 - NHBC Traffic light system for 150 mm void

Dependant on the outcome of the assessment of risk posed by ground gas it is determined whether gas protection measures are required for the proposed development, and or whether a detailed quantitative risk assessment is required for the site.

Selection & Design of Protective Measures

Table 8.6 and Box 8.4 of CIRIA C665 contain information on the detailed design of protection measures and were initially intended for the purposes of determining then level of protection measures a development requires. These tables and related text include some useful information on the design of gas protection measures, however BS8485:2007, which supersedes the guidance included within CIRIA C665, is used for selection of gas protection measures.

BS8485:2015 +A1 2019 uses a scoring system dependant on the Characteristic Situation / NHBC Traffic Light and proposed end use of the site. The scoring system is summarised in BS8485:2015 + A1 2019 Table 2 as presented hereunder:

Characteristic gas situation, CS	NHBC traffic light	Required gas protection			
		Non-managed property e.g. private housing	Public building (a)	Commercial buildings	Industrial buildings (b)
1	Green	0	0	0	0
2	Amber 1	3	3	2	1 (c)
3	Amber 2	4	3	2	2
4	Red	6 (d)	5(d)	4	3
5			6(e)	5	4
6				7	6

NOTE Traffic light indications are taken from NHBC Report no.:10627-RO1 (04) and are mainly applicable to low-rise residential housing¹. These are for comparative purposes but the boundaries between the traffic light indications and CS values do not coincide.

a) Public buildings include, for example, managed apartments, schools and hospitals.
b) Industrial buildings are generally open and well ventilated. However, areas such as office pods might require a separate assessment and may be classified as commercial buildings and require a different scope of gas protection to the main building.
c) Maximum methane concentration 20% otherwise consider and increase to CS3.
d) Residential building on higher traffic light/CS sites is not recommended unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations.
e) Consideration of issues such as ease of evacuation and how false alarms will be handled are needed when completing the design specification of any gas protection scheme

¹ The NHBC guidance and CIRIA C665 guidance refers to low rise housing (which is up to three storeys without lifts) that is constructed with a 150mm ventilated sub-floor void.

BS8485:2015 A1 +2019 Table 2 Required gas protection by characteristic gas situation and type of building

Once a score is assigned, a combination of protection systems / elements is chosen from BS8485:2015 +A1 2019 Table 3 shown below:

PROTECTION ELEMENT /SYSTEM		SCORE	COMMENTS
a) Venting / dilution (See Annex A BS8485)			
Passive sub floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.) ^A	Very good performance	2.5	<i>Ventilation performance in accordance with Annex A (BS8485)</i> <i>If passive ventilation is poor this is generally unacceptable and some form of active system will be required.</i> <i>There have to be robust management systems in place to ensure the continued maintenance of any ventilation system.</i> <i>Active ventilation can always be designed to meet good performance.</i> <i>Mechanically assisted systems come in two forms: extraction and positive pressurization.</i>
	Good performance	1	
Subfloor ventilation with active abstraction/pressurization (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.) ^A		2.5	
Ventilated car park (basement or undercroft)		4	
b) Barriers			
Floor slabs			<i>It is good practice to install ventilation in all foundation systems to effect pressure relief as a minimum.</i> <i>Breaches in floor slabs such as joints have to be effectively sealed against gas ingress in order to maintain these performances.</i>
Block and beam floor slab		0	
Reinforced concrete ground bearing slab		0.5	
Reinforced concrete ground bearing foundation raft with limited service penetrations that are cast into slab		1.5	
Reinforced concrete cast in situ suspended floor slab with minimal service penetrations and water bars around all slab penetrations and at joints		1.5	
Fully tanked basement		2	
c) Membranes			
Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation ^{B,C}		0.5	<i>The performance of membranes is heavily dependent on the quality of design of the installation, resistance to damage after installation, and the integrity of joints.</i>
Proprietary gas resistant membrane to reasonable levels of workmanship /in line with good practice under independent inspection (CQA) ^{B,C}		1	
Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation		2	
d) Monitoring and detection (not applicable to non-managed property, or in isolation)			
Intermittent monitoring using hand held equipment		0.5	<i>Where fitted, permanent monitoring systems ought to be installed in the underfloor venting/dilution system in the first instance but can also be provided within the occupied space as a fail safe.</i>
Permanent monitoring and alarm system ^A	Installed in the underfloor venting/dilution system	2	
	Installed in the building	1	
e) Pathway Intervention			
Pathway intervention		-	<i>This can consist of site protection measures for off-site or on-site sources (see Annex A, BS8485)</i>
NOTE In practice the choice of materials might well rely on factors such as construction method and the risk of damage after installation. It is important to ensure that the chosen combination gives an appropriate level of protection			
A) It is possible to test ventilation systems by installing monitoring probes for post installation validation.			
B) If a 1 200g DPM material is to function as a gas barrier it should be installed according to BRE 212 /BRE 414 being taped and sealed to all penetrations			
C) Polymeric Materials> 1200 g (proportional to thickness) but their physical properties mean that they are more robust and resistant to damage.			

BS8485:2015 + A1 2019 Table 3 Solution Scores

Where the gas situation is 4 or more (and for NHBC Red situations) the site requires a comprehensive risk assessment to confirm the scope of protection measures. These are higher risk sites and reliance on Table 2 and 3 alone is not sufficient.

For a site which is impacted by migratory gases from an off site source, the development may be protected by imposing pathway intervention methods, which if successfully validated, could also remove the need for further analysis. It is essential that the gas regime in these circumstances has been fully characterised and that the only source impacting the site is located off site and that the pathway is clearly defined and its interception equally proven before construction commences. Pathway intervention methods may include vertical membrane installations, venting trenches, rows of stone columns, activated trenches and various proprietary systems. These systems are particularly relevant to domestic housing where there is limited scope for foundation type solutions.

CURRENT GUIDANCE ON REMEDIATION

When risk assessment of the site has been completed and it indicates that remedial works are required, the main guidance in managing this process is set out in the DEFRA/EA publication CLR11 (2004) "Model Procedures for the Management of Land Contamination." The stages of managing remediation are as follows:

- (a) Options Appraisal and develop Remediation Strategy;
- (b) Develop Implementation Plan and Verification Plan;
- (c) Remediation, Verification and Monitoring.

The Remediation Strategy sets out the remediation targets, identifies technically feasible remedial solutions and presents an evaluation of the options so that these can be assessed enabling that the most suitable solution is adopted. An outline of the proposed remedial method should be presented. Agreement should be sought of the appropriate statutory bodies for the Remediation Strategy before proceeding to the next stage.

The Implementation Plan is a detailed method statement setting out how the remediation is to be carried out including stating how the site will be managed, welfare procedures, health and safety considerations together with practical measures such as details of temporary works, programme of works, waste management licences and regulatory consents required. Agreement should again be sought of the appropriate statutory bodies for this Plan.

The Verification Plan sets out the requirements for gathering data to demonstrate that the remediation has met the required remediation objectives and criteria. The Verification Plan presents the requirements for a wide range of issues including the level of supervision, sampling and testing regimes for treated materials, waste and imported materials, required monitoring works during and post remediation, how compliance with all licenses and consents will be checked etc. Agreement should again be sought of the appropriate statutory bodies for the Verification Plan. On completion of the remediation a Verification Report should be produced to provide a complete record of all remediation activities on site and the data collected as required in the Verification Plan. The Verification Report should demonstrate that the remediation has met the remedial targets to show that the site is suitable for the proposed use.

APPENDIX N: NOTES ON LIMITATIONS

Notes on Limitations For Geoenvironmental and Geotechnical Consultancy Services

General

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The findings and opinions are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date. In particular, seasonal ground water levels, with the effects of precipitation, may affect the conditions found during the investigation. The report should be read in conjunction with the further Notes on Limitations included in Appendix A.

Where opinions expressed in this report are based on current available guidance and legislation, no liability can be accepted by CC GEOTECHNICAL LTD for the effects of any future changes to such guidelines and legislation. Additional information, improved practices, new guidance, changes in legislation, or amendments to design proposals, may necessitate this report having to be reviewed in whole or in part after that date. Opinions and interpretations are not accredited by UKAS.

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1. the consequences of this document being used for any purpose or project other than for which it was commissioned and/or
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Phase I Environmental Audits / Desk Studies

The work undertaken to provide the basis of a Phase 1 Desk Study report comprises a study of available documented information from a variety of sources (including the client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in a Desk Study report have been dictated by finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in the report, CC GEOTECHNICAL LTD reserves the right to review such information and to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits

The investigation of the site has been carried out with the intention of providing sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated to potential human targets, building materials, the environment (including adjacent land), and surface and groundwater.

The amount of exploratory work and chemical testing undertaken may have been restricted by the timescale available, and the locations of the exploratory holes may have been restricted to areas unoccupied by the building(s) on the site, and further restricted by the existence of buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues may need to be resolved.

For those reasons, if costs have been included in relation to site remediation these must be considered as tentative only and must, in any event, be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, investigate only a small volume of the ground in relation to the size of the site, and can only provide a general indication of site conditions. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

Geoenvironmental Ground Investigations

The investigation of the site has been carried out to provide sufficient information within the agreed scope of the investigation, under the general headings of type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions, to provide a reasonable assessment of the environmental risks together with engineering and development implications.

If costs have been included in relation to the site remediation, these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, investigate only a small volume of the ground in relation to the size of the site, and can only provide a general indication of the site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be ground conditions present on the site which have not been disclosed by this investigation, and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that groundwater levels will vary owing to seasonal, tidal, weather, or other effects.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.