

GROUND INVESTIGATION REPORT

**Proposed Residential Development
Land off Island Road, Reading**

Prepared for: Hampshire County Council

Date: August 2020

Report No: 6683/GIR



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REPORT TITLE : **Ground Investigation Report:**
Proposed Residential Development
Land off Island Road, Reading

REPORT STATUS : **Final**

REVISION : **Rev 02**

JOB NUMBER : **6683/GIR**

DATE : **August 2020**

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EXECUTIVE SUMMARY

Proposals	Reading Borough Council is proposing to develop the land off Island Road, Reading. The proposed development will consist of predominantly hard standing for parking cars and caravans together with office and washroom buildings, some landscaped areas and associated infrastructure.																									
Geology	The Geological Map of the area shows the site to be underlain by the Lambeth Group of Palaeogene Age. Superficial deposits in the form of Alluvium are shown to overlie the bedrock geology of the area. The BGS describes these deposits as normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present. The Beenham Grange Gravel Member is shown to overlie the bedrock geology adjacent the western boundary and this formation may be found at the site. The BGS describes the Lambeth Group as vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate are also present. The Chalk Group of Cretaceous Age underlies the Lambeth Group at depth.																									
Field Investigation	Prior to the site works, a comprehensive Phase 1 Desk Study was completed and discussions with local Environmental Health Officer were made. The site works were scoped by Hampshire County Council and comprised the following: • 3No. cable percussive boreholes [BH1-BH3], • 4No. machine excavated trial pits [TP01-TP04], and • 3No. in-situ California Bearing Ratio (CBR) tests [BH1-BH3]. The site works were carried out between the 7th and 17th of July 2020. The ground conditions can be summarized as below: <table><tr><th>Stratum</th><th>Depth From (m)</th><th>Depth to (m)</th><th>Minimum Thickness (m)</th><th>Maximum Thickness (m)</th></tr><tr><td>Made Ground</td><td>0.00</td><td>1.00 / 2.40</td><td>1.00</td><td>2.40</td></tr><tr><td>Superficial Deposits</td><td>1.00 / 2.40</td><td>4.50 / 5.10</td><td>1.10</td><td>2.70</td></tr><tr><td>Lambeth Group</td><td>4.50 / 5.10</td><td>13.10 / 13.60</td><td>8.00</td><td>9.10</td></tr><tr><td>Chalk Group</td><td>13.10 / 13.60</td><td>>20.00</td><td colspan="2">Unproven</td></tr></table> During drilling groundwater was encountered between 2.00m and 3.00m bgl. Post investigation monitoring has confirmed groundwater levels between 1.37m and 2.30m bgl.	Stratum	Depth From (m)	Depth to (m)	Minimum Thickness (m)	Maximum Thickness (m)	Made Ground	0.00	1.00 / 2.40	1.00	2.40	Superficial Deposits	1.00 / 2.40	4.50 / 5.10	1.10	2.70	Lambeth Group	4.50 / 5.10	13.10 / 13.60	8.00	9.10	Chalk Group	13.10 / 13.60	>20.00	Unproven	
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Made Ground	0.00	1.00 / 2.40	1.00	2.40																						
Superficial Deposits	1.00 / 2.40	4.50 / 5.10	1.10	2.70																						
Lambeth Group	4.50 / 5.10	13.10 / 13.60	8.00	9.10																						
Chalk Group	13.10 / 13.60	>20.00	Unproven																							

Contamination Risk Assessment	Chemical Testing & Evaluation	The results of the chemical testing have revealed elevations of benzo(b)fluoranthene & dibenzo(a,h)anthracene that are above soil guidance values identified for the site. Therefore, remediation will be required across the site to render it fit for use.
	Remediation : Human Health	Given the nature of the development and levels of contaminants encountered a cover system will likely be the most appropriate form of remediation. Current design proposals are to cover most of the site with hardstanding, which will act as a suitable cover material. 600mm of inert suitable materials will be required within proposed soft-landscaped areas. Alternatively, the made ground material can be removed to an appropriate landfill facility.
	Remediation : Aquatic Environment	Risk Assessment has confirmed low risk to the aquatic environs.
	Gas Migration	Based on the 6 rounds of gas monitoring at the site a conservative Gas Screening Value (GSV) 0.012 l/hr has been derived using the highest ground gas concentration (CO₂ at 12.4%) and the highest flow rate recorded (0.1/h). Due to the presence of carbon dioxide concentrations above 5%, 'Gas Characteristic Situation 2' should be adopted for permanent building proposed at the site. Static buildings with void space below will not require a gas protection system. Further measures to deal with ground gas are discussed in Section 8.
Engineering Recommendations	Foundation and Floor Slab Solution	It is recommended that a piled foundation solution be adopted for the site. Given the nature of the site and underlying ground conditions, precast concrete driven piles into the Lambeth Group would be appropriate. Pile lengths are anticipated to be between 10 and 12m long, though variations in length should be expected. Piles should avoid penetrating the Chalk Group to avoid creating a contamination pathway into this Principal aquifer. If vibrations with adjacent structures are considered problematic then CFA piles may be more suitable for the site. Pile design parameters are given in Section 8 Alternatively, to the above, ground improvement techniques such as soil stabilisation may be suitable for the site. A specialist contractor with relevant experience in the design and installation of this technique should be consulted for further advice. Floor slabs should be designed as suspended.
	New Access Road and Car Parking Areas	At a construction depth of >0.25mbgl within the Made Ground a suggested CBR value of 2.5% is recommended due to the variability within this stratum.
	Buried Concrete	Based on the above and using guidance within BRE Special Digest 1 (2005) it is recommended that any buried concrete within the Made Ground or Alluvium conforms to DS-1 and AC-1 with deeper concrete within the Lambeth Group conforming to a worse case DS-4 and AC-4.

TABLE OF CONTENTS

SECTION 1	Introduction and Proposed Development	8
1.1	Limitations and Exceptions of Investigation	8
SECTION 2	Site Setting	10
2.1	Physical Setting	10
2.1.1	Current Use and Site Conditions	11
2.2	Phase 1 Risk Assessment	11
2.2.1	Preliminary Illustrative Site Conceptual Model	12
SECTION 3	Field Investigation	14
3.1	General	14
3.2	Exploratory Holes	15
3.2.1	Cable Percussive Boreholes	15
3.2.2	Borehole Installations	16
3.2.3	Machine Excavated Trial Pits	16
3.3	In-situ Testing	16
3.3.1	Strength Testing	16
3.3.2	California Bearing Ratio (CBR) Testing	17
3.4	Sampling	18
3.4.1	Sampling Quality Assurance	18
3.4.2	Soil Chemical Test Sampling Regime	18
3.4.3	Soil Property Test Sampling Regime	19
3.5	Groundwater and Gas Monitoring	19
SECTION 4	Ground Conditions	21
4.1	Summary	21
4.2	Stability	21
4.3	Strata Details	22
4.3.1	Made Ground	22
4.3.2	Superficial Deposits	22
4.3.3	Lambeth Group	22
4.3.4	Chalk Group	22
4.4	Water Strikes	22
SECTION 5	Laboratory Chemical Testing	24
5.1	General	24
5.2	Risk Assessment	24
5.2.1	Introduction	24
5.2.2	Methodology	25
5.2.3	Assessment of Zones/Areas	25

5.2.4	Sources	26
5.2.5	Pathways	26
5.2.6	Potential Receptors	27
5.3	Evaluation of Analytical Results	27
5.3.1	Soils	27
5.4	Contaminants of Concern in Soils	35
5.4.1	Soils	35
5.5	Waste Classification	35
SECTION 6	Qualitative Risk Assessment/Mitigation Measures	36
6.1	Site Summary	36
6.2	Potential Contaminants	36
6.2.1	Soils	36
6.3	Potential Receptors	36
6.4	Potential Pathways	37
6.5	Human Health Risks	40
6.6	Risks to the Aquatic Environment	41
6.7	Site Conceptual Model	42
SECTION 7	Geotechnical Laboratory Testing Results	43
7.1	General	43
7.1.1	Classification Testing	43
7.1.2	Shear Strength Testing	45
SECTION 8	Engineering Recommendations	46
8.1	Preparation of Site	46
8.2	Foundation Solution	46
8.2.1	Infrastructure	47
8.2.2	Floor Slabs	48
8.3	Excavations and Formations	49
8.4	Earthworks	49
8.5	New Access Road and Car Parking Areas	49
8.6	Protection of Buried Concrete	50
8.7	Evaluation of In-situ Gas Monitoring Results	50

Tables

Table 3.1: Exploratory Hole Co-ordinates	14
Table 3.2: Standpipe Installation Details	16
Table 3.3: Chemical Test Sample Descriptions	18
Table 3.4: Soil Property Test Sample Descriptions	19
Table 3.5: Summary of Groundwater Monitoring	20
Table 4.1: Summary of Ground Conditions	21
Table 4.2: Summary of Groundwater	23
Table 5.1: Summary of Chemical Testing Suites	24
Table 5.2: Summary of Potential Contamination Pathways	26
Table 5.3: Summary of Potentially Affected Receptors	27
Table 5.4: Soil Chemical Test Results – Inorganics (Metals)	27
Table 5.5: Soil Chemical Test Results – Inorganics (General)	28
Table 5.6: Soil Chemical Test Results – Organics (General)	28
Table 5.7: Soil Chemical Test Results – Organics (Speciated PAH)	29
Table 5.8: Soil Chemical Test Results – Organics (Speciated PH)	31
Table 5.9: Soil Chemical Test Results – Organics (OCPs)	32
Table 5.10: Soil Chemical Test Results – Organics (OPPs)	33
Table 5.11: Soil Chemical Test Results – Organics (Herbicides)	34
Table 5.12: Soil Chemical Test Results – Miscellaneous (Asbestos)	34
Table 5.13: Contamination Exceedances	35
Table 6.1 Summary of Ground Conditions	36
Table 6.2: Summary of Potentially Affected Receptors	37
Table 6.3: Summary of Potentially Affected Receptors Following Construction	37
Table 6.4: Human Health Risk Assessment	40
Table 6.5: Risks to the Aquatic Environment	41
Table 7.1a: Summary of Soil Classification Test Results – PI, IDD & SMC	45
Table 7.1b: Summary of Soil Classification Test Results - BRE	45
Table 7.1c: Summary of Soil Classification Test Results - PSD	46
Table 7.2: Summary of Undrained Unconsolidated Triaxial Test Results	46
Table 8.1 Summary of Ground Conditions	47
Table 8.2 Preliminary Pile Capacity Values	48
Table 8.3: Earthworks Classification	50

Annexes

Annex A: Exploratory Hole Logs
Annex B: In-situ Test Results
Annex C: Chemical Test Results
Annex D: Soil Property Test Results
Annex E: Gas Monitoring Results

Drawings

Drawing 2.1: Site Location Plan
Drawing 2.2: Preliminary Site Conceptual Model
Drawing 3.1: Exploratory Hole Location Plan
Drawing 3.2: SPT vs Depth
Drawing 6.1: Revised Site Conceptual Model

SECTION 1 Introduction and Proposed Development

Reading Borough Council is proposing to develop the land off Island Road, Reading. The proposed development will consist of predominantly hard standing for parking cars and caravans together with office and washroom buildings, some landscaped areas and associated infrastructure.

Hampshire County Council are the Consulting Engineers for the proposed development.

Terra Firma (South) have been commissioned as Geotechnical and Geo-Environmental Engineers to carry out a Ground Investigation of the site.

The main objectives of the geo-technical ground investigation were to:

- Determine the type, strength and bearing characteristics of the near surface soils and underlying bedrock geology.
- Provide recommendations for a suitable and economic foundation/floor slab solution for the development.
- Provide recommendations with regard to any other geo-technical aspects pertaining to the development.

The main objectives of the geo-environmental assessment programme were to:

- Identify the potential environmental liabilities at the site associated with any soil and groundwater contamination from past site uses.
- Provide a summary of the environmental conditions at the site, together with any necessary remediation works to render the site fit for its intended use.
- Provide recommendations with regard to any other geo-environmental aspects pertaining to the development.

The Ground Investigation has been undertaken in general accordance with the following advisory guidance:

- Code of Practice for Site Investigations - (BS 5930): 2015 + A1: 2020
- Investigation of Potentially Contaminated Sites - CoP (BS 10175): 2011 + A2 2017
- Methods of test for soils for civil engineering purposes - In-situ tests (BS 1377-9): 1999
- Assessing risks posed by hazardous ground gases to buildings - CIRIA guidance C665 (2007) & BS8485:2015+A1 2019

In order to achieve the above objectives, Terra Firma (South) carried out an assessment programme including a review of existing data, followed by a field investigation to determine the prevailing ground conditions and also to collect and analyse soil samples from selected locations around the site.

The scope of the works including the schedule for in-situ and laboratory testing was determined by Hampshire County Council.

A comprehensive desk study has been undertaken by Terra Firma (South) (Report No. 6683) in May 2020 and should be read in conjunction with this report.

1.1 Limitations and Exceptions of Investigation

Hampshire County Council has requested that a Ground Investigation Report (GIR) be performed in order to establish the ground conditions at the site and collect representative samples for laboratory analysis.

The Ground Investigation was conducted and this report has been prepared for the sole internal reliance of Hampshire County Council and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma (South). If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

The report represents the findings and opinions of experienced geo-environmental and geo-technical consultants. Terra Firma (South) does not provide legal advice and the advice of lawyers may also be required.

The subsurface geological profiles, any contamination and other plots are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

The ground investigation was limited by the following site constraints:

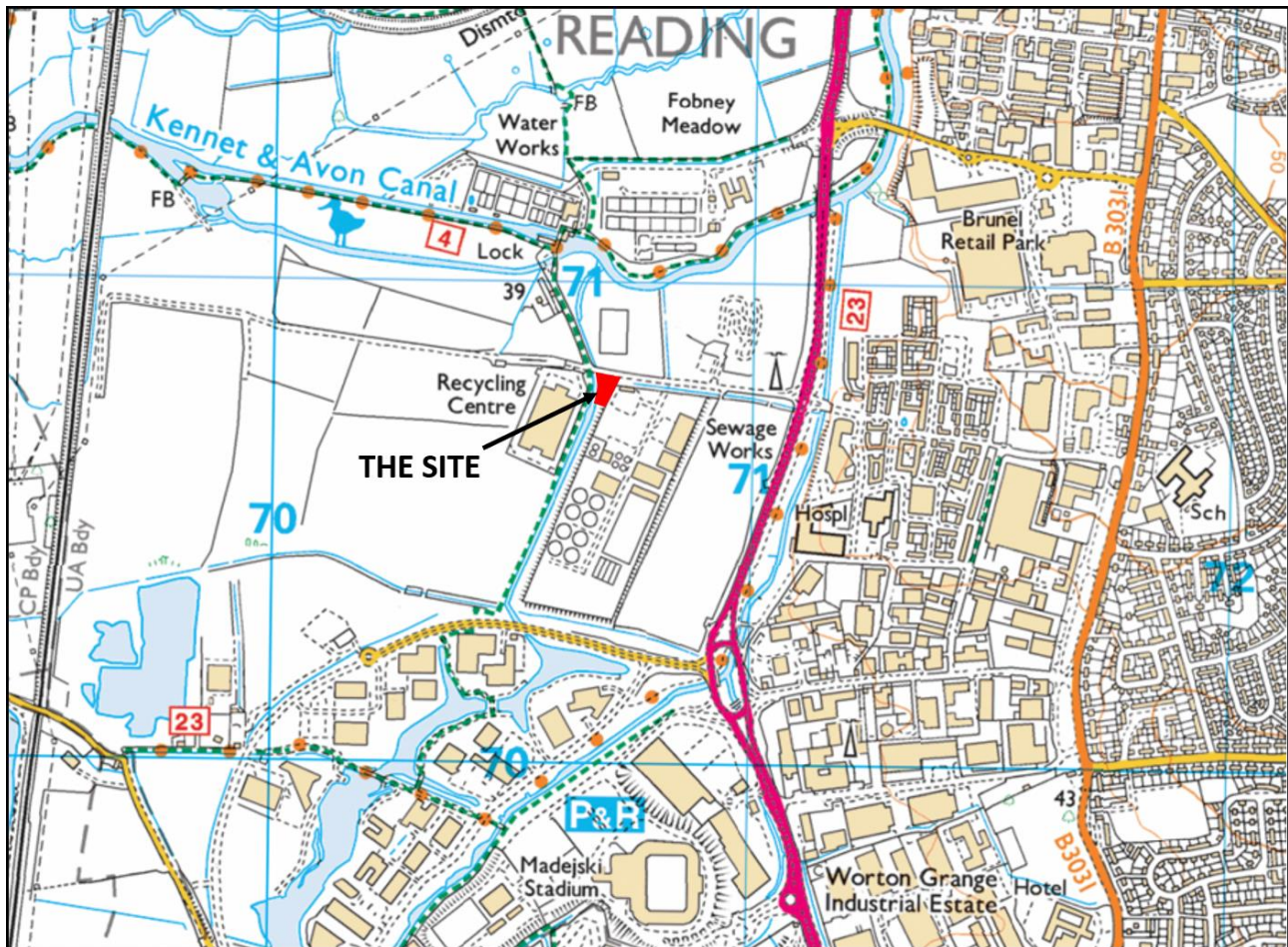
- The presence of access restrictions to the required locations,
- The sensitive nature of the site (ecological), and
- The unsecure and neglected nature of the site.

SECTION 2 Site Setting

2.1 Physical Setting

The site is located on land to the south of Island Road, Reading, RG2 0RP, to the east of the recycling centre.

The site is centred approximately on National Grid Reference (NGR) 470693, 170799. The site location is presented in **Drawing 2.1** below.



Drawing 2.1: Site Location Plan

The site is irregular in shape with a plan area of some 0.33 hectares and sits at approximately 40m above ordnance datum (aod).

The topography of the site and surrounding area is typically flat. However, spoil mounds are located onsite.

The site boundaries comprise the following:

- North – The northern boundary comprises Island Road with a commercial unit beyond.
- East – The eastern boundary comprises a sewage treatment works with associated infrastructure.
- South – The southern boundary comprises a strip of open land between the commercial infrastructure of the sewage treatment works to the east and the recycling centre to the west.
- West – The western boundary comprises a stream feeding into the River Kennet to the north with a recycling centre beyond.

2.1.1 Current Use and Site Conditions

A site walkover was undertaken on the 5th May 2020 by an engineer from Terra Firma (south).

On this date the site comprised a parcel of land that was heavily overgrown with vegetation preventing access to all but the southern section of the site. The site was accessed from the north boundary using a narrow clearance in the vegetation.

Within the northern section of the site there were some overgrown mounds that may have been artificially formed through placement of soil or spoil. In addition, there was some discarded rubbish comprising empty plastic cannisters and plastic piping in this area.

The site was bound by a highway to the north, a sewage works to the east and a surface water to the west beyond which was a waste processing facility. It was not possible to determine the land usage to the south of the site due to access restrictions caused by the heavy vegetation.

2.2 Phase 1 Risk Assessment

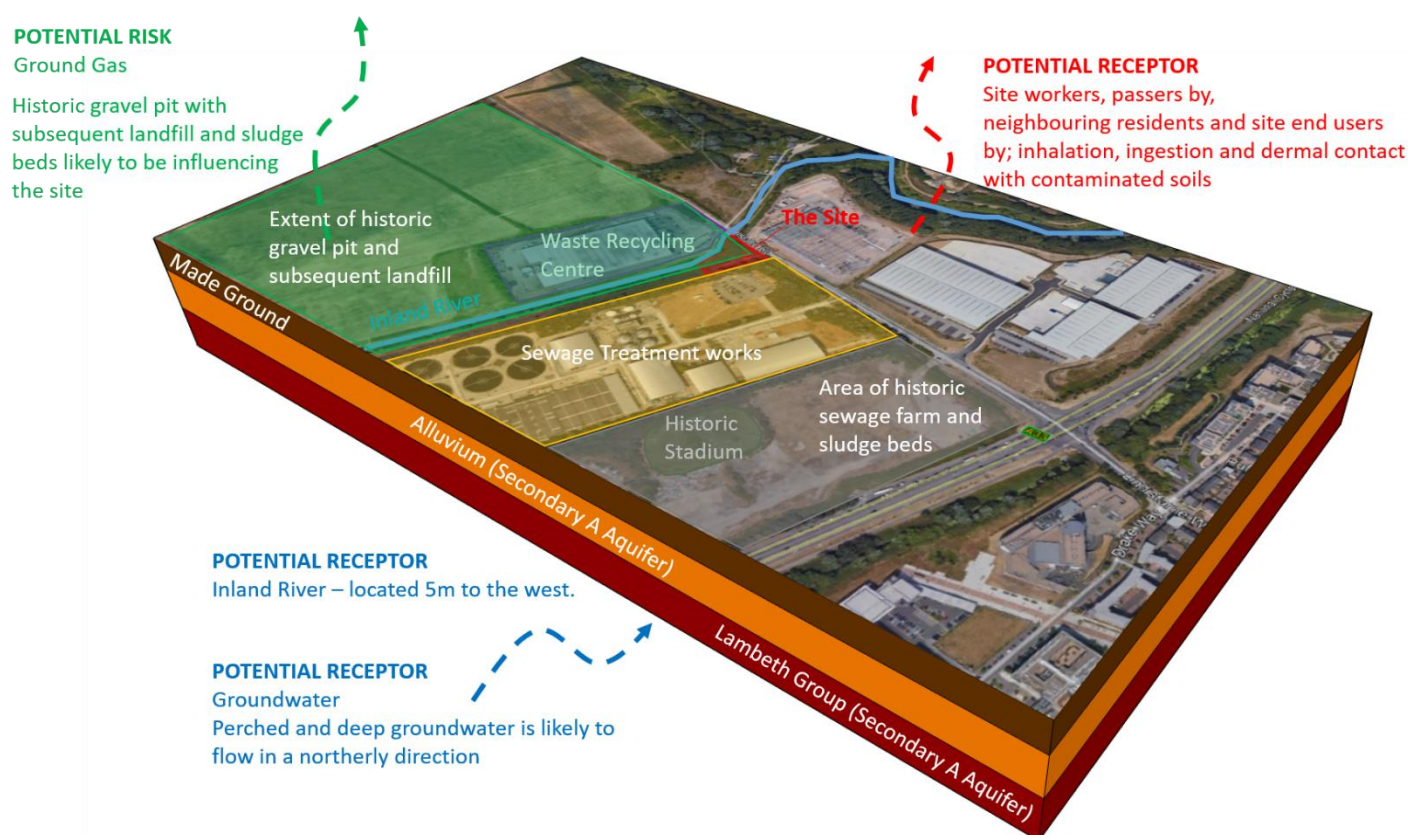
A Phase 1 Contaminated Land Risk Assessment was undertaken by Terra Firma (South) in May 2020 (Report number 6683) and should be read in conjunction with this report. A summary of the report is detailed below:

Geology		The Geological Map of the area shows the site to be underlain by the Lambeth Group of Palaeogene Age, underlain at depth by the Chalk Group of Cretaceous Age. Superficial deposits in the form of Alluvium are shown to overlie the bedrock geology of the area. The BGS describes these deposits as normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel. A stronger, desiccated surface zone may be present. The Beenham Grange Gravel Member is shown to overlie the bedrock geology adjacent the western boundary and this formation may be found at the site. The BGS describes the Lambeth Group as vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate are also present.
Mining		In summary, the risk from underground/surface mining activity is likely to be low to moderate.
Potential Sources of Contamination	On-site	Historically, the site has comprised a parcel of open land used as part of a sewage farm from before mapping began in 1879. From 1991 to sometime before 2001 the site forms the very north eastern boundary of a gravel pit. The site itself has remained largely unchanged from this time. The site walkover has determined that the site currently comprises a heavily overgrown parcel of land with some raised mounds (of possible soil or spoil) and discarded materials (plastic cannisters and piping) in the northern section. The potentially infilled ground, raised mounds and sewage farm are considered to be potential contamination sources of on-site contamination.

	Off-site	Historically, the surrounding area (<250m) has typically comprised open land that formed part of the sewage farm and various commercial and industrial usage. A gravel pit was noted directly to the west of site, extending onto the site itself, recorded between 1970 to sometime before 2001. This area was later used as a landfill and then developed as a recycling centre. Present day and historical uses of the surrounding area have a number of potential contamination sources including sewage works, sludge beds and infilled ground.
	Gas Migration	Due to the presence of influencing underlying organic material (e.g. peat and sewage sludge) and potential made ground, the presence of ground gas cannot be ruled out.
Preliminary Human Health & Environmental Risk Assessment		The preliminary human health and environmental risk assessment has revealed that due to the sites and surrounding areas current and past land uses that a Moderate risk is present from contamination present beneath the site, with particular risk specifically associated with the historic sewerage farm and potential made ground. In addition, a Low risk is present from the migration of radon gas, a Moderate risk from the migration of landfill gas and a High risk from the migration of ground gas.

2.2.1 Preliminary Illustrative Site Conceptual Model

The following illustration represents a theorised model through the site. The drawing is generalised and not to scale.



Drawing 2.2: Preliminary Site Conceptual Model

SECTION 3 Field Investigation

3.1 General

The site works were scoped by Hampshire County Council and comprised the following:

- 3No. cable percussive boreholes [BH1-BH3],
- 4No. machine excavated trial pits [TP01-TP04], and
- 3No. in-situ California Bearing Ratio (CBR) tests using a TRL DCP [adjacent to BH1-BH3].
- 6No. rounds of post investigation gas monitoring

The site works were carried out between the 7th and 17th of July 2020.

Prior to the site works, the following Health and Safety measures were undertaken:

- Risk Assessment & Method Statement (RAMS) was issued and approved beforehand,
- Underground utility plans were obtained from the relevant statutory undertakers,
- Safety fencing was used to prevent unauthorised access into the site working area,
- Before any excavation, all exploratory hole locations were scanned using a Cable Avoidance Tool (CAT),
- Before any drilling, a 1.20m deep inspection pit was excavated at each borehole location,

For security, on completion of the investigation safety fencing was left securing the opening created for access at the site entrance.

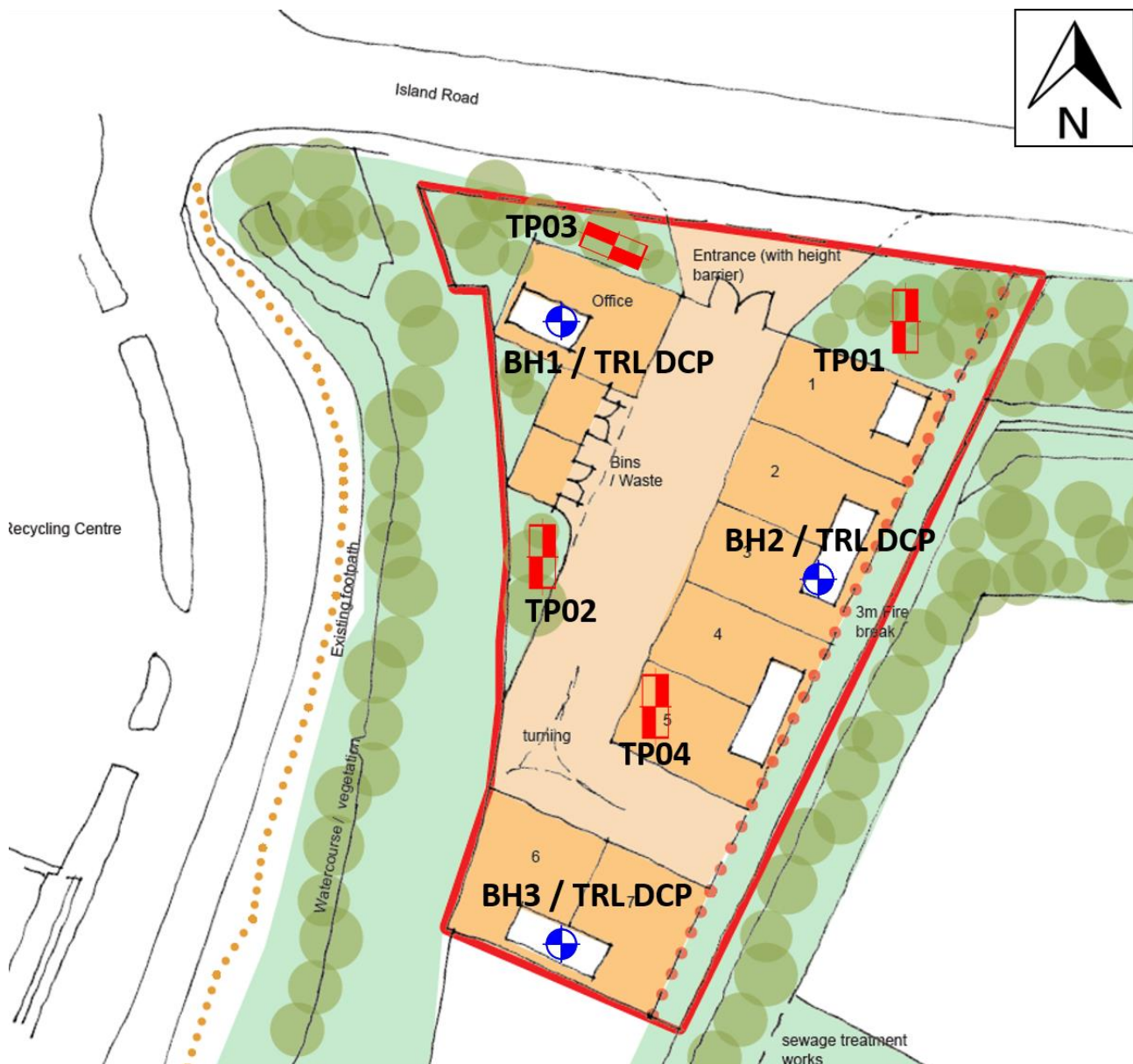
The exploratory holes were set out at locations provided by Hampshire County Council and adjusted where necessary to take account of the site constraints detailed in Section 1.1.

Approximate exploratory hole co-ordinates and levels were picked up post-investigation using a hand held Global Positioning System (GPS) receiver and presented in the table below:

Table 3.1: Exploratory Hole Co-ordinates		
Exploratory Hole	Easting	Northing
BH1	470687	170812
BH2	470702	170786
BH3	470684	170751
TP01	470707	170806
TP02	470680	170776
TP03	470683	170814
TP04	470684	170756

The site works were supervised by Terra Firma (South), who also logged the exploratory holes to the requirements of BS5930:2015 + A1-2020.

The exploratory hole logs and in-situ test results are presented in **Annex A** and **Annex B** respectively, and their locations shown on **Drawing 3.1** below.



Drawing 3.1: Exploratory Hole Location Plan

3.2 Exploratory Holes

3.2.1 Cable Percussive Boreholes

The cable percussive boreholes (150mm diameter) were sunk using a Pilcon 150 drilling rig as described in EN ISO 22475-1:2006.

Due to the depth of drilling an additional mobilisation for further casing was required.

Standard Penetration Tests using either a split spoon or solid cone (SPT(S/C)) were undertaken at regular depths during the drilling in accordance with BS EN ISO 22476-3. Typically, tests were undertaken at the base of an inspection pit and every metre for the first 5m, and then every 1.5m thereafter, a final test was undertaken at the base of each borehole.

Undisturbed (U100) and disturbed bulk/small soil samples were taken at regular depths during the drilling. Water samples were taken at each water strike.

Boreholes BH1 to BH3 were installed with a gas or ground water monitoring pipe, the details of which are summarised in the section below.

During drilling, standing time/day works were incurred due to the following reasons:

- Inspection Pits (3 hours)
- Backfilling Holes / Clear-up (3 Hours)

3.2.2 Borehole Installations

Groundwater and gas monitoring systems were installed in BH1 to BH3.

The standpipe installation details for the boreholes are as follows:

Table 3.2: Standpipe Installation Details				
Borehole No.	Top of Response Zone (m bgl)	Bottom of Response Zone (m bgl)	Purpose	Pipe Detail
BH1	1.00	1.80	Gas	Lockable Flush cover set in concrete surround
	4.00	12.70	Groundwater	
BH2	1.00	1.50	Gas	Plain (50mm) to top of Response Zone with gas valve
	3.50	4.20	Groundwater	
BH3	0.50	1.50	Gas	Slotted (50mm) Response Zone with geotextile sock and gravel surround
	2.50	4.00	Groundwater	
				Top/Bottom sealed with bentonite

3.2.3 Machine Excavated Trial Pits

The trial pits were excavated using a JCB 3CX wheeled excavator.

Following completion of soil logging, in-situ testing and sampling, the trial pits were backfilled using arisings and re-compacted as best as practicably possible using the excavator backhoe. If necessary, the trial pit was left slightly proud in order to allow for short-term settlement.

3.3 In-situ Testing

3.3.1 Strength Testing

SPTs

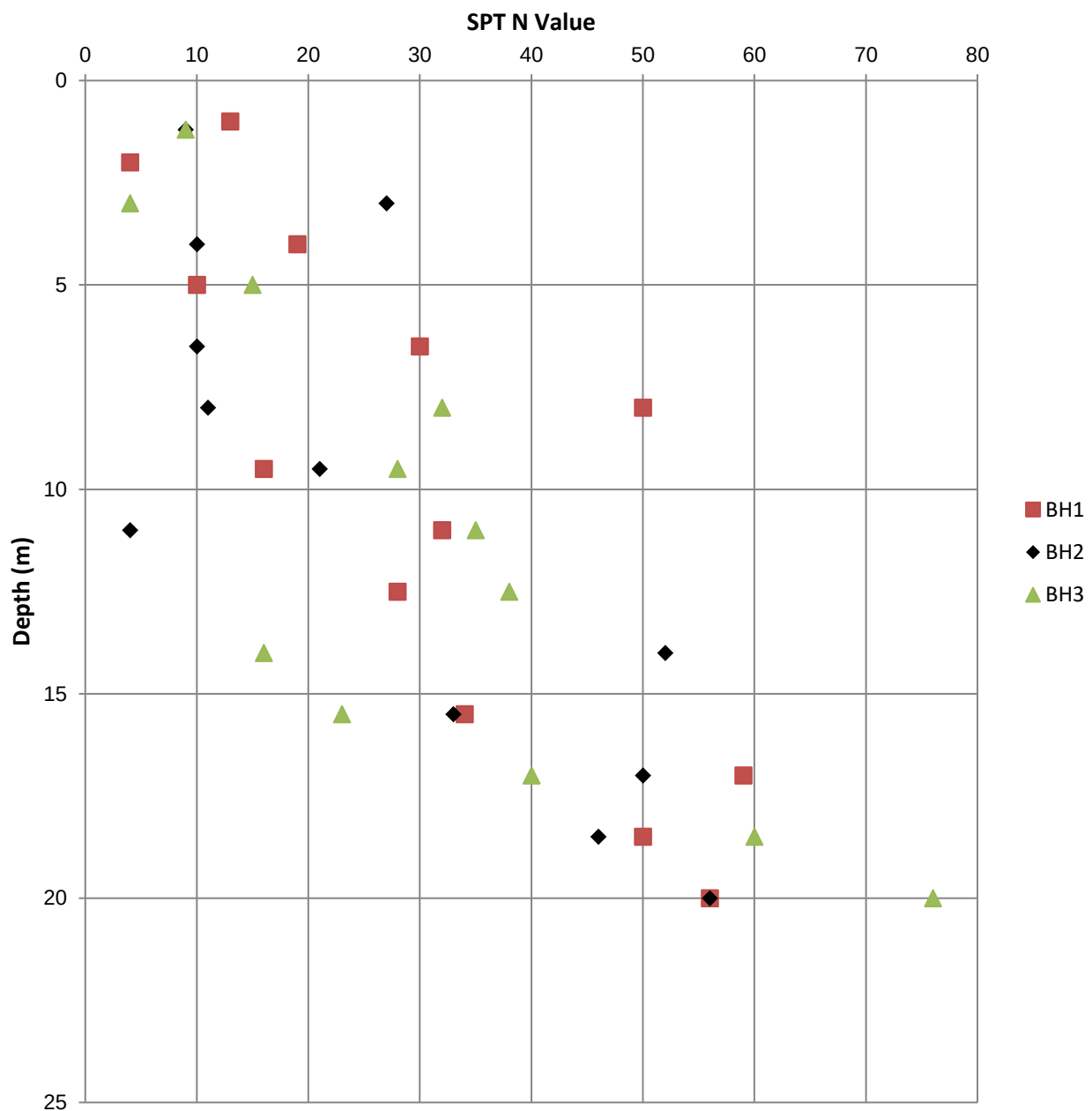
SPT N Values taken within the Made Ground revealed a range of between 4 to 13.

SPT N Values taken within the Alluvium Deposits revealed a range of between 4 to 27.

SPT N Values taken within the Lambeth Group revealed a range of between 4 to 50.

SPT N Values taken within the Chalk Group revealed a range of between 16 to 76.

Drawing 3.2 below presents the distribution of SPT N values against depth (mbgl).



Drawing 3.2: SPT vs Depth

3.3.2 California Bearing Ratio (CBR) Testing

The in-situ CBR tests (3No) were carried out using a TRL Dynamic Cone Penetrometer (DCP) probe. The probes were typically sunk to a depth of <1.00m below ground level, targeting the proposed formation layer.

The in-situ CBR tests were carried out in accordance with 'Methods of test for soils for civil engineering purposes – Part 9 (BS 1377): 1999'.

The in-situ CBR test results are presented in **Annex B** and should be referred to for specific depth related values.

3.4 Sampling

3.4.1 Sampling Quality Assurance

Care was taken to ensure that sampling quality assurance occurred during site works. This included the following measures:

- The use of nitrile gloves at each sampling point.
- Stainless steel shovels were used to collect soil samples. The tool was cleaned with distilled water between each sample point.
- Soil samples were stored at a temperature below 4 degrees.
- Soil samples were stored within sample containers according to the chemical testing required.
- No head space was left in sample containers.

3.4.2 Soil Chemical Test Sampling Regime

During the intrusive investigation small disturbed soil and/or water samples were collected for chemical testing.

The sample locations and depths are illustrated in the table below:

Table 3.3: Chemical Test Sample Descriptions			
Sample No.		Sample Type	Description
Mound 1	0.50	MG	Brown slightly sandy gravelly CLAY
Mound 2	0.30	MG	Orange brown and grey slightly sandy gravelly CLAY
Mound 3	0.10	MG	Orange and light brown slightly sandy gravelly silty CLAY
BH1	0.25	MG	Yellowish brown slightly gravelly sandy silty CLAY
BH1	2.00	MG	Brownish yellow slightly gravelly sandy silty CLAY
BH1	2.60	TS	Greenish grey slightly gravelly clayey SILT
BH1	12.30	LG	Bluish grey silty SAND
BH2	0.50	MG	Orangish brown slightly sandy gravelly CLAY
BH2	1.00	MG	Brown slightly sandy slightly gravelly silty CLAY
BH2	1.50	MG	Brownish orange slightly sandy slightly gravelly silty CLAY
BH2	2.50	SD	Brownish yellow slightly sandy gravelly to very gravelly CLAY
BH2	13.50	CG	CHALK
TP01	0.10	MG	Brown slightly sandy gravelly silty CLAY
TP01	0.35	MG	Brown sandy very gravelly CLAY
TP01	0.70	MG	Grey sandy very gravelly CLAY
TP01	1.00	MG	Dark grey and black slightly sandy gravelly CLAY
TP02	0.10	MG	Brown slightly sandy gravelly silty CLAY
TP02	0.35	MG	Light brown sandy very silty GRAVEL
TP02	0.70	MG	Brown slightly silty sandy GRAVEL
TP02	1.00	MG	Multicoloured slightly sandy gravelly CLAY
TP03	0.10	MG	Dark brown gravelly sandy SILT
TP03	0.35	MG	Light brown very gravelly sandy silty CLAY
TP03	0.70	MG	Brown slightly gravelly sandy CLAY
TP03	1.00	MG	Dark grey sandy gravelly silty CLAY
TP04	0.10	MG	Dark brown gravelly sandy SILT
TP04	0.35	MG	Orange brown slightly sandy to sandy very gravelly CLAY
TP04	0.70	MG	Multicoloured slightly sandy to sandy very gravelly CLAY

TP04	1.00	SD	Dark grey slightly sandy very silty CLAY
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Notes

- Sample Type: TS (Topsoil), MG (Made Ground), SD (Superficial Deposits), LG (Lambeth Group), CG (Chalk Group)

3.4.3 Soil Property Test Sampling Regime

During the intrusive investigation bulk soil samples were collected for soil property testing.

The sample locations and depths are illustrated in the following table:

Table 3.4: Soil Property Test Sample Descriptions			
Sample No.		Sample Type	Description
BH1	2.50	MG	Greyish brown mottled bluish grey silty very gravelly SAND
BH1	3.00 – 3.45	rTS	Very soft brownish grey very gravelly sandy clayey SILT
BH1	3.50 – 4.00	SD	Dark grey silty very sandy GRAVEL
BH1	7.30 – 7.80	LG	Grey silty fine SAND
BH1	16.30 – 16.80	CG	White CHALK
BH1	19.20 – 19.80	CG	White CHALK
BH2	2.00 – 2.45	rTS	Very soft brown slightly organic very gravelly silty CLAY
BH2	3.50 – 4.00	SD	Greyish brown very sandy GRAVEL with rare roots
BH2	4.50	SD	Bluish grey and grey slightly sandy silty CLAY with rare fine to medium gravel
BH2	8.80 – 9.30	LG	Grey fine to medium SAND
BH2	11.80 – 12.00	UF	Grey very sandy GRAVEL with wood fragments
BH2	12.10 – 12.50	UF	Grey silty CLAY
BH2	13.10	CG	White CHALK
BH2	16.20	CG	White CHALK
BH3	1.40 – 1.80	rTS	Dark brown sandy silty CLAY with occasional fine to medium gravel and rare shell fragments
BH3	1.80 – 2.00	SD	Multi-coloured silty CLAY with occasional fine to medium gravel
BH3	2.60 – 3.00	SD	Greyish brown very sandy GRAVEL
BH3	4.00 – 4.45	SD	Very soft brown mottled grey sandy very gravelly silty CLAY
BH3	6.50 – 6.95	LG	Firm grey silty CLAY
BH3	6.95	LG	-
BH3	10.40 – 10.80	LG	Grey fine to medium SAND
BH3	13.00 13.50	UF	Grey and grey brown sandy silty CLAY with rare gravel
BH3	13.60	CG	White CHALK
BH3	14.00 – 14.45	CG	-
BH3	14.80 – 15.30	CG	White CHALK

Notes

- Sample Type: rTS (Relic Topsoil), MG (Made Ground), SD (Superficial Deposits), LG (Lambeth Group), UF (Upnor Formation), CG (Chalk Group)

3.5 Groundwater and Gas Monitoring

Groundwater and gas monitoring wells were installed within BH1 to BH3. Dual installations were used comprising 50mm diameter plain pipe and the remainder slotted to the specified depth. Three shallow installs were used for gas monitoring and three deeper installations for groundwater. A layer of bentonite was placed at the top and bottom of the response zones in order to seal them.

An initial programme of in-situ gas monitoring (6 Visits) was undertaken within the three shallow installations for the presence of methane, carbon dioxide and oxygen was implemented following completion of the installations. The barometric pressure of the atmosphere and flow rate was also measured at the time of monitoring.

Groundwater monitoring was also completed within the deeper installations to assess groundwater levels across the site. The table below presents the standing groundwater levels recorded for each borehole.

Table 3.5: Summary of Groundwater Monitoring						
	GWL (metres BGL)					
Date	29/07/2020	11/08/2020	27/08/2020	03/09/2020	18/09/2020	02/10/2020
Time of Monitoring (GMT)	13:30	09:30	14:00	13:30	12:15	12:00
BH1 (deep)	2.17	2.30	2.14	2.16	2.28	2.20
BH1 (shallow)	Dry (1.89)	Dry (1.89)	Dry (1.89)	Dry (1.89)	Dry (1.89)	Dry (1.89)
BH2 (deep)	1.83	1.90	1.78	1.71	1.86	1.84
BH2 (shallow)	Dry (1.61)	Dry (1.61)	Dry (1.60)	Dry (1.60)	Dry (1.60)	Dry (1.59)
BH3 (deep)	1.37	1.44	1.28	1.29	1.42	1.37
BH3 (shallow)	Dry (1.63)	Dry (1.63)	1.36	1.38	1.45	1.38

Notes:

- GWL (BGL) – Groundwater Level (Below Ground Level)

The results of the gas monitoring are presented in **Annex E**.

SECTION 4 Ground Conditions

4.1 Summary

The ground conditions encountered by the exploratory holes are summarised in the following table:

Table 4.1: Summary of Ground Conditions					
Depth (mbgl)		Thickness (m)		Stratum	
From	To	Min	Max		
0.00	1.00 / 3.50	1.00	3.50	Firm to stiff yellow brown / grey / brown slightly gravelly silty CLAY with brick, concrete, plastic, glass etc Underlain by relic Topsoil layer comprising soft to very soft brownish / greenish brown slightly sandy slightly gravelly silty CLAY / clayey SILT	<i>Made Ground / Relic Topsoil</i>
1.00 / 3.50	4.50 / 5.10	1.10	2.70	Very soft to firm yellowish brown / brown / bluish grey slightly sandy gravelly to very gravelly CLAY with bands of medium dense grey, white and brown slightly silty very sandy GRAVEL	<i>Superficial Alluvium</i>
4.50 / 5.10	13.10 / 13.60	8.00	9.10	- Stiff bluish grey CLAY / clayey SILT - Medium dense to dense, locally loose, bluish grey silty SAND - Grey and black flint GRAVEL	<i>Lambeth Group</i>
13.10 / 13.60	>20.00	Unproven		CHALK composed of white slightly sandy very silty GRAVEL of low to medium density chalk.	<i>Chalk Group</i>

Within the trial pits, the estimated strength of granular deposits was determined from visual assessment only (ease/difficulty of excavation and pit stability).

4.2 Stability

The sides of the trial pit excavations were typically found to be stable.

Due to the hole instability within the granular Lambeth Group deposits and Chalk Group, 150mm casing was needed to advance the boreholes to a depth of between 16.00 and 17.00m.

4.3 Strata Details

4.3.1 Made Ground

Made Ground was encountered within all exploratory holes and generally comprised a clay material with variable amounts of anthropogenic inclusions.

The Made Ground was only fully penetrated within the cable percussive boreholes and TP4, located towards the south of the site. The Made Ground extended to depths of up to 2.40m in the north and to a shallower depth of between 1.00m and 1.80m in the south of the site.

Within the cable percussive boreholes a reworked layer of possible relic Topsoil was encountered at the base of the Made Ground extending to between 1.80m and 3.50m and was between 0.40m and 1.20m thick.

4.3.2 Superficial Deposits - Alluvium

The Alluvium, associated with the adjacent water course to the west of the site, was encountered within BH1 to BH3 and TP4 only. These deposits generally comprised a very soft to stiff CLAY with variable gravel and sand content and/or a layer of medium dense bluish grey slightly clayey slightly sandy flint GRAVEL.

The Alluvial deposits were only fully penetrated within BH1 to BH3 and found to extend to depths of between 4.50 and 5.10m bgl.

4.3.3 Lambeth Group

The Lambeth Group was encountered within BH1 to BH3 only and comprised a stiff bluish grey CLAY overlying medium dense to dense, locally very loose, bluish grey silty SAND. Within BH1 an additional layer of clayey SILT was encountered at the base of the Lambeth Group.

Within BH2 and BH3 a layer of grey and black subrounded to rounded flint GRAVEL with bands of bluish grey silty CLAY were encountered which may represent the Upnor Formation.

4.3.4 Chalk Group

The Chalk Group was encountered within BH1 to BH3 only and was recovered as a slightly sandy silty GRAVEL comprising low to medium density chalk.

The Chalk Group was not fully penetrated and found to extend to depths in excess of 20.00m bgl.

4.4 Water Strikes

During site works, groundwater was encountered within BH1 to BH3 at depths of between 2.00m and 3.00m, rising to a depth of between 2.60m and 1.70m after 20 minutes.

Groundwater encountered by the exploratory holes can in general be summarised as shown in the following table:

Table 4.2: Summary of Groundwater				
Hole Location	Groundwater Strike Depth (mbgl)	Groundwater Depth (mbgl) after 20 mins	Comments	Water Bearing Strata
BH1	3.00	2.20	Slight rise	<i>rTS</i>
BH2	2.80	2.60	Slight rise	<i>SD</i>
BH3	2.00	1.70	Slight rise	<i>SD</i>

Notes

- Water Bearing Strata: *rTS* (relic Topsoil), *SD* (Superficial Deposits).

SECTION 5 Laboratory Chemical Testing

5.1 General

During the site works, 23 soil samples were taken and dispatched to the laboratories of Chemtest for chemical testing.

The following chemical testing was undertaken:

Table 5.1: Summary of Chemical Testing Suites		
Inorganics	Metals	Arsenic (As), Cadmium (Cd), Chromium (Cr), Hexavalent Chromium (CrVI), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), Selenium (Se), Zinc (Zn)
	General	pH (acidity), Cyanide (CN ⁻), Thiocyanate (SCN ⁻), Ammoniacal Nitrogen (NH ₄ -N), Sulphide (S ²⁻), Sulphur (S), Sulphate (SO ₄ ²⁻), Organic Matter (OM), Total Organic Carbon (TOC)
Organics		Phenol Poly-Aromatic Hydrocarbons (PAH) Petroleum Hydrocarbons (PH): EPH/CWG Benzene, Toluene, Ethylbenzene, Xylene (BTEX) Methyl tert-butyl ether (MTBE) Pesticides / Herbicides
Miscellaneous		Asbestos ID / Quantification

The results of the above chemical tests are presented in **Annex C** and evaluated below.

5.2 Risk Assessment

5.2.1 Introduction

The results obtained from the investigation, which are discussed in detail in Section 5.3, were used to conduct an environmental risk assessment for the site. The risk assessment aimed to:

- Identify sensitive receptors
- Determine pathways for contaminant migration to the receptors
- Estimate contaminant impact on receptors
- Establish whether remedial action is required
- Calculate remediation target levels if required

The future use of the site i.e. whether it is to be used for residential or commercial has an impact on any risk assessment. As the site is expected to comprise predominantly hard standing for parking cars and caravans with a permanent office and washroom building and some landscaped areas, soil guidance values (SGV) for a residential with plant uptake end-use has been adopted.

5.2.2 Methodology

Soils

Environmental risk assessment evaluates the risk to receptors via an analysis of the 'source-pathway-target' linkage. In order for a risk to be present, there must be a contaminant source capable of causing a health risk, a vulnerable receptor, and a pathway linking the two.

This sort of risk assessment is usually conducted using a tiered approach. Tier 1 consists of a comparison of the analytical results obtained from the site investigation with Soil Guideline Values (SGV's) specific to the type of development obtained from The Environment Agency Contaminated Land Exposure Assessment (CLEA) Guidelines.

The CLEA model, technical guidance and Soil Guideline Values are currently under review, as a direct result of the publication published by DEFRA (2006) 'Soil Guideline Values: The Way Forward'. The technical guidance CLR 9 and CLR 10 have been superseded by Science Reports (SR) 2 and SR3.

Whilst the toxicological and risk assessment framework is under review, the laboratory soil chemical test results have been evaluated by comparison with published Generic Assessment Criteria (GAC), with preference in the following order:

1. Category 4 Screening Levels (C4SLs) - Department for Environment, Food and Rural Affairs (DEFRA, 2014),
2. Suitable for Use Levels (S4ULs) - Land Quality Management & Chartered Institute of Environmental Health (LQM & CIEH, 2015),
3. Soil Guideline Values (SGVs) - EA / DEFRA, 2002-2009,
4. Generic Assessment Criteria (GAC) - Contaminated Land: Applications in Real Environments (CL:AIRE, 2010), and
5. Generic Assessment Criteria (GAC) derived by Terra Firma (South).

In the absence of a GAC, the laboratory Limit of Detection (LoD) has been used for comparison in order to establish the presence/absence of determinants and for initial screening purposes.

The above sources typically have derived GAC with reference to the EA's Contaminated Land Exposure Assessment (CLEA) model and using the CLEA software.

All receptor profiles, source inputs and toxicological parameters comply with both peer reviewed literature and CLR 7 to CLR 10. As with SGV's the SSV's and CIEH GAC are not yet updated to SR2 and SR3.

Should Tier 1 levels be exceeded, a choice is made either to remediate the site to conservative Tier 1 levels, or proceed to Tier 2.

Tier 2 makes use of site-specific data to evaluate acceptable concentrations of chemicals for the particular conditions present at the site.

At each tier, the amount and detail of investigation work increases as more site-specific data are needed to refine the characterisation of the site. Conversely, as site conditions are better understood, a more site-specific remediation strategy can be determined.

Controlled Waters

In the case of groundwater and/or leachate, the acceptable concentrations are sourced from the Environment Agency Chemical Standards Report for each individual substance. The report presents a variety of target concentrations specific to protection goals and environmental media in which the standard applies. The most applicable protection goal and environmental media for this project is the protection of aquatic life in a freshwater environment.

Where there is no standard for a freshwater environment, the target concentrations are derived from UK standards for drinking water (for human consumption). In the absence of any published guideline, a conservative threshold is suggested.

5.2.3 Assessment of Zones/Areas

Following initial findings from the Phase 1 Desk Study and subsequent Ground Investigation, a site can be zoned into separate areas, for the purposes of contamination assessment. This zoning can be based on the sites previous history and/or from the proposed end use of the site. These zones can then be subdivided into averaging areas which in turn can be assessed for differing soil types and potentially differing pathways. Each averaging area can then be considered independently of each other for human health exposure assessment.

Based upon a site end use of predominantly hard standing for parking cars and caravans with a permanent office and washroom building and some landscaped areas, coupled with the findings from the Phase 1 Desk Study and Ground Investigation it is proposed that the site be treated as a single zoned site.

5.2.4 Sources

The sources of contamination considered in the risk assessment are taken to be concentrations of chemicals beneath the site.

5.2.5 Pathways

The various pathways considered in the risk assessment are summarised in the table below:

Table 5.2: Summary of Potential Contamination Pathways	
Potential Contamination Pathway	
Human Health	Ingestion of soil and soil dust
	Consumption of site grown produce
	Dermal contact (Inc. eye uptake) with soil, soil dust and water
	Inhalation of soil particles, dust, asbestos and vapours, both indoors and outdoors
	Inhalation of landfill / ground gas, accumulation and risk of explosion
	Contaminant permeation of drinking water pipes and ingestion of contaminated water supply
Aquatic Environment	Surface water runoff
	Migration of surface water into underlying soils and groundwater
	Leaching of contaminants via groundwater transport into the wider aquatic environment – surface waters and groundwater

5.2.6 Potential Receptors

A summary of the potential affected receptors at the site are summarised in the table below:

Table 5.3: Summary of Potentially Affected Receptors	
Potentially Affected Receptors	
Construction Workers	
Neighbouring Site Users	
Passers-by	
Future Residents/ Visitors	
Maintenance Contractors	
Residents in the surrounding area	
Persons who may come into contact with water in the vicinity of the site	
Vegetation from phytotoxic contaminants	
Building Materials from aggressive ground conditions	
The underlying secondary aquifer	
Nearby surface waters and the aquatic life within	

5.3 Evaluation of Analytical Results

5.3.1 Soils

A summary of the Inorganic (Metals) soil chemical test results are shown in the table below.

Table 5.4: Soil Chemical Test Results – Inorganics (Metals)					
Substance	Land Use / Guideline Values	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
	R w HP	Min	Max		
Arsenic	37	3.5	27	0	-
Cadmium	22	0.1	1.3	0	-
Chromium	910	1.4	42	0	-
Chromium VI	21	0.5	0.5	0	-
Copper	2400	2.1	130	0	-
Lead	200	1.9	180	0	-
Mercury (Total)	40	0.1	1.6	0	-
Nickel	180	2.2	43	0	-
Selenium	250	0.2	1.5	0	-
Zinc	3700	6.5	680	0	-

Notes

- C4SL - Provisional Category 4 Screening Levels
- S4UL - Suitable for Use Levels
- R_wHP (Residential with Home-grown Produce)
- - No comparable Guideline Value
- A total of 23 representative soil samples were tested for these substances

A summary of the Inorganic (General) soil chemical test results are shown in the table below.

Table 5.5: Soil Chemical Test Results – Inorganics (General)					
Substance	Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
	R w HP	Min	Max		
pH (pH Units)	Considered in BRE SD1, BS3882, BS8601 and/or UKWIR	7.6	9.3	0	-
Cyanide (Total)	8	0.5	0.6	0	-
Cyanide (Free)	0.5 (LoD)	0.5	0.5	0	-
Thiocyanate	170	5	5	0	-
Organic Matter	Considered in Organic Contaminant Guideline Value Assessment, BS3882 and/or BS8601	0.4	15	0	-
TOC (%)	Considered in C665 and BS 8485: 2007	0.57	5.6	0	-
Ammoniacal Nitrogen	570	0.93	22	0	-
Sulphate (2:1) (g/l)	Considered in BRE SD1	0.01	0.26	0	-
Sulphide	Considered in BRE SD1	0.5	550	0	-
Sulphur (%)	-	0.02	0.84	0	-
Sulphate (Total) (%)	Considered in BRE SD1	0.051	2.2	0	-

Notes

- **SGV** - Soil Guideline Value
- **GAC** - Generic Assessment Criteria
- BRE SD1: 2005 - Concrete in Aggressive Ground
- BS 3882: 2015 - Specification for Topsoil
- BS 8601: 2013 - Specification for Subsoil and requirements for use
- C665: 2007 - Assessing risks posed by hazardous ground gases to buildings
- BS 8485: 2007 – Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- UKWIR – Guidance for the Selection of Water Supply Pipe to be used in Brownfield Sites: 2010
- R_wHP (Residential with Home-grown Produce)
- LoD - Limit of Detection
- - No comparable Guideline Value
- A total of 23 representative soil samples were tested for these substances

A summary of the Organic (General) soil chemical test results are shown in the table below.

Table 5.6: Soil Chemical Test Results – Organics (General)					
Substance	SOM	Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		95% UCL
		R w HP	Min	Max	
Total Phenol	1	120	0.3	0.3	-
	2.5	200			
	6	380			
Total PAH*		2 (LoD)	2	100	30.2
Total EPH _(C10-C40) **	1	74+	10	2300	266.5
	2.5	180+			
	6	380+			

BTEX	Benzene		0.87	0.001	0.001	0	-
	Toluene	1	130	0.001	0.001	0	-
		2.5	290			0	
		6	660			0	
	Ethylbenzene	1	47	0.001	0.001	0	-
		2.5	110			0	
		6	260			0	
	Xylene ***	1	56	0.001	0.001	0	-
		2.5	130			0	
		6	310			0	
	Methyl tert-butyl ether (MTBE)	1	49	0.001	0.001	0	-
		2.5	84			0	
6		160	0				
OCP/OPP			See OCP/OPP Results Table				
Herbicides			See Herbicides Results Table				
E.Coli			-	<10 cfu/g	<10 cfu/g	0	-
Faecal Strep			-	<10 cfu/g	<10 cfu/g	0	-
Total Coliforms			-	<10 cfu/g	<10 cfu/g	0	-
Salmonella			-	None detected		0	-

Notes

- C4SL - Provisional Category 4 Screening Levels
- S4UL - Suitable for Use Levels
- CL:AIRE - Generic Assessment Criteria (GAC)
- R_wHP (Residential with Home-grown Produce)
- LoD - Limit of Detection
- SOM - Soil Organic Matter
- OCP/OPP - Organochlorine / Organophosphorus Pesticides
- * Total PAH - Poly-Aromatic Hydrocarbons, EPA 16 (See Speciated PAH Results Table)
- ** Total EPH – Extractable Petroleum Hydrocarbons, Ali/Aro (See Speciated PH Results Table)
- + Based on worse-case Aromatic C₁₀-C₁₂ fraction
- *** - Guideline Value based on worse case of O, M or P - Xylene
- - No comparable Guideline Value

In order to accurately assess the risk from Total PAH, speciation was undertaken, which splits the total PAH concentration into its sixteen components.

A summary of the Organic (Speciated PAH) soil chemical test results are shown in the table below.

Table 5.7: Soil Chemical Test Results – Organics (Speciated PAH)						
Substance		Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
		R w HP	Min	Max		
Naphthalene	1	2.3	0.1	0.17	0	-
	2.5	5.6			0	
	6	13			0	
Acenaphthylene	1	170	0.1	0.26	0	-
	2.5	420			0	
	6	920			0	

Acenaphthene	1	210	0.1	1.8	0	-
	2.5	510			0	
	6	1100			0	
Fluorene	1	170	0.1	1.7	0	-
	2.5	400			0	
	6	860			0	
Phenanthrene	1	95	0.1	13	0	-
	2.5	220			0	
	6	440			0	
Anthracene	1	2400	0.1	4	0	-
	2.5	5400			0	
	6	11000			0	
Fluoranthene	1	280	0.1	18	0	-
	2.5	560			0	
	6	890			0	
Pyrene	1	620	0.1	14	0	-
	2.5	1200			0	
	6	2000			0	
Benzo(a)anthracene	1	7.2	0.1	8.2	1	2.5
	2.5	11			0	
	6	13			0	
Chrysene	1	15	0.1	8.7	0	-
	2.5	22			0	
	6	27			0	
Benzo(b)fluoranthene	1	2.6	0.1	8.8	4	2.6
	2.5	3.3			1	
	6	3.7			1	
Benzo(k)fluoranthene	1	77	0.1	4	0	-
	2.5	93			0	
	6	100			0	
Benzo(a)pyrene		5	0.1	7.3	1	2.5
Indeno(1,2,3-cd)pyrene	1	27	0.1	5.1	0	-
	2.5	36			0	
	6	41			0	
Dibenzo(a,h)anthracene	1	0.24	0.1	1.8	4	0.6
	2.5	0.28			3	
	6	0.3			1	
Benzo(g,h,i)perylene	1	320	0.1	4.4	0	-
	2.5	340			0	
	6	350			0	

Notes

- C4SL - Provisional Category 4 Screening Levels
- S4UL - Suitable for Use Levels
- R_{HP} (Residential with Home-grown Produce)
- SOM - Soil Organic Matter
- A total of 23 representative soil samples were tested for these substances

In order to accurately assess the risk from Total PH, speciation was undertaken, which splits the Total PH concentration into carbon bandings in accordance with the Total Petroleum Hydrocarbon Criteria Working Group (CWG).

A summary of the Organic (Speciated PH) soil chemical test results are shown in the table below.

Table 5.8: Soil Chemical Test Results – Organics (Speciated PH)							
Substance			Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
				Min	Max		
Aliphatic	VPH <C5-C6	1	40	1	1	0	-
		2.5	78			0	
		6	160			0	
	VPH <C6-C8	1	100	1	1	0	-
		2.5	230			0	
		6	530			0	
	VPH <C8-C10	1	27	1	1	0	-
		2.5	65			0	
		6	150			0	
	EPH <C10-C12	1	130	1	1	0	-
		2.5	330			0	
		6	760			0	
	EPH <C12-C16	1	1100	1	1	0	-
		2.5	2400			0	
		6	4300			0	
	EPH <C16-C21 ⁺	1	65000	1	22	0	-
		2.5	92000			0	
		6	110000			0	
	EPH <C21-C35 ⁺	1	65000	1	210	0	-
		2.5	92000			0	
		6	110000			0	
Aromatic	VPH <C5-C7	1	70	1	1	0	-
		2.5	140			0	
		6	300			0	
	VPH <C7-C8	1	130	1	1	0	-
		2.5	290			0	
		6	660			0	
	VPH <C8-C10	1	34	1	1	0	-
		2.5	83			0	
		6	190			0	
	EPH <C10-C12	1	74	1	1	0	-
		2.5	180			0	
		6	380			0	

	EPH <C12-C16	1	140	1	1	0	-
		2.5	330			0	
		6	660			0	
	EPH <C16-C21	1	260	1	9.5	0	-
		2.5	540			0	
		6	930			0	
	EPH <C21-C35	1	1100	1	300	0	-
		2.5	1500			0	
		6	1700			0	

Notes

- S4UL - Suitable for Use Levels
- R_wHP (Residential with Home-grown Produce)
- SOM - Soil Organic Matter
- VPH – Volatile Petroleum Hydrocarbons
- EPH – Extractable Petroleum Hydrocarbons
- + Based on worse-case Aliphatic C₁₆-C₃₅ fraction
- A total of 6 representative soil samples were tested for these substances

A summary of the Organochlorine Pesticide (OCPs) soil chemical test results are shown in the table below.

Table 5.9: Soil Chemical Test Results – Organics (OCPs)						
Substance		Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
		R w HP	Min	Max		
alpha-HCH	1.0	0.23	0.20	0.20	0	-
	2.5	0.55			0	
	6.0	1.2			0	
gamma-HCH (Lindane)	1.0	0.06	0.20	0.20	0	-
	2.5	0.14			0	
	6.0	0.33			0	
beta-HCH	1.0	0.085	0.20	0.20	0	-
	2.5	0.2			0	
	6.0	0.46			0	
delta-BHC		0.20 (LoD)	0.20	0.20	0	-
Heptachlor		0.20 (LoD)	0.20	0.20	0	-
Aldrin	1.0	5.7	0.20	0.20	0	-
	2.5	6.6			0	
	6.0	7.1			0	
Heptachlor epoxide		0.20 (LoD)	0.20	0.20	0	-
gamma-Chlordane		0.20 (LoD)	0.20	0.20	0	-
Endosulphan I & Alpha-chl	1.0	7.4	0.20	0.20	0	-
	2.5	18			0	
	6.0	41			0	
4,4-DDE		0.20 (LoD)	0.20	0.20	0	-
Dieldrin	1.0	0.97	0.20	0.20	0	-
	2.5	2.0			0	
	6.0	3.5			0	
Endrin		0.20 (LoD)	0.20	0.20	0	-

Endosulphan II & 4,4-DDD	1.0	7.0	0.20	0.20	0	-
	2.5	17			0	
	6.0	39			0	
Endrin aldehyde	0.20 (LoD)		0.20	0.20	0	-
4,4-DDT	0.20 (LoD)		0.20	0.20	0	-
Endosulphan sulphate	0.20 (LoD)		0.20	0.20	0	-
Methoxychlor	0.20 (LoD)		0.20	0.20	0	-
Endrin ketone	0.20 (LoD)		0.20	0.20	0	-
Permethrin	0.20 (LoD)		0.20	0.20	0	-
Isodrin	0.20 (LoD)		0.20	0.20	0	-

Notes

- S4UL - Suitable for Use Levels
- R_wHP (Residential with Home-grown Produce)
- SOM - Soil Organic Matter
- LoD - Limit of Detection
- A total of 3 representative soil samples were tested for these substances

A summary of the Organophosphorus Pesticide (OPPs) soil chemical test results are shown in the table below.

Table 5.10: Soil Chemical Test Results – Organics (OPPs)					
Substance	Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		Number of exceedances	95% UCL
	R w HP	Min	Max		
SOM					
Demeton-O	0.20 (LoD)	0.20	0.20	0	-
Phorate	0.20 (LoD)	0.20	0.20	0	-
Demeton-S	0.20 (LoD)	0.20	0.20	0	-
Disulfoton	0.20 (LoD)	0.20	0.20	0	-
Fenthion	0.20 (LoD)	0.20	0.20	0	-
Trichlorinate	0.20 (LoD)	0.20	0.20	0	-
Fensulphothion	0.20 (LoD)	0.20	0.20	0	-
Azinphos methyl	0.20 (LoD)	0.20	0.20	0	-
Coumaphos	0.20 (LoD)	0.20	0.20	0	-
Prothiofos	0.20 (LoD)	0.20	0.20	0	-
Sulprofos	0.20 (LoD)	0.20	0.20	0	-

Notes

- S4UL - Suitable for Use Levels
- R_wHP (Residential with Home-grown Produce)
- SOM - Soil Organic Matter
- LoD - Limit of Detection
- A total of 3 representative soil samples were tested for these substances

A summary of the Organic (Herbicides) soil chemical test results are shown in the table below.

Table 5.11: Soil Chemical Test Results – Organics (Herbicides)						
Substance			Land Use / Guideline Values (mg/kg)	Measured Levels of Substances (mg/kg)		95% UCL
			R w HP	Min	Max	
SOM						
Triazine herbicides	Atraton		0.20 (LoD)	0.20	0.20	0
	Prometon		0.20 (LoD)	0.20	0.20	0
	Simazine		0.20 (LoD)	0.20	0.20	0
	Atrazine	1.0	3.3	0.20	0.20	0
		2.5	7.6			0
		6.0	17.4			0
	Propazine		0.20 (LoD)	0.20	0.20	0
	Terbuthylazine		0.20 (LoD)	0.20	0.20	0
	Secbumeton		0.20 (LoD)	0.20	0.20	0
	Symetryn		0.20 (LoD)	0.20	0.20	0
	Ametryn		0.20 (LoD)	0.20	0.20	0
	Prometryne		0.20 (LoD)	0.20	0.20	0
	Terbutryn		0.20 (LoD)	0.20	0.20	0

Notes

- S4UL - Suitable for Use Levels
- R_wHP (Residential with Home-grown Produce)
- SOM - Soil Organic Matter
- LoD - Limit of Detection
- A total of 3 representative soil samples were tested for these substances

A summary of the Miscellaneous (Asbestos) soil chemical test results are shown in the table below.

Table 5.12: Soil Chemical Test Results – Miscellaneous (Asbestos)				
Sample No. & Depth (m)		ID Result	Comments	Total Mass (%)
Mound1	0.50	Chrysotile	bitumen	0.009
Mound2	0.30	No Asbestos Detected	-	-
Mound3	0.10	No Asbestos Detected	-	-
BH1	0.25	No Asbestos Detected	-	-
BH1	2.00	No Asbestos Detected	-	-
BH1	2.60	No Asbestos Detected	-	-
BH1	12.30	No Asbestos Detected	-	-
BH2	0.50	No Asbestos Detected	-	-
BH2	1.50	No Asbestos Detected	-	-
BH2	2.50	No Asbestos Detected	-	-
BH2	13.50	No Asbestos Detected	-	-
TP01	0.10	No Asbestos Detected	-	-
TP01	0.35	No Asbestos Detected	-	-
TP01	0.70	No Asbestos Detected	-	-
TP01	1.00	No Asbestos Detected	-	-
TP02	0.35	No Asbestos Detected	-	-

TP02	0.70	No Asbestos Detected	-	-
TP03	0.10	No Asbestos Detected	-	-
TP03	0.35	No Asbestos Detected	-	-
TP03	0.70	No Asbestos Detected	-	-
TP03	1.00	No Asbestos Detected	-	-
TP04	0.35	No Asbestos Detected	-	-
TP04	1.00	No Asbestos Detected	-	-

Notes:

- Total Mass (%) is based on Gravimetric Quantification

5.4 Contaminants of Concern in Soils

5.4.1 Soils

Contaminants of concern are those where the measured concentrations and 95% Upper Confidence Limit exceeds the relevant Tier 1 CLEA Soil Guideline Value or CIEH Generic Assessment Criteria.

It can be seen from Tables 5.4 to 5.12 that the following contaminants were identified at concentrations above the respective SGV for site.

Table 5.13: Contamination Exceedances					
Contaminant	Sample Details		SGV for RwHP	Concentration detected (mg/kg)	Above 95% UCL
	Location	Depth			
Benzo(a)anthracene	TP01	0.35	7.2	8.2	x
Benzo(b)fluoranthene	TP01	0.35	2.6	8.8	✓
		0.70		5.6	
	TP03	0.10		4.1	
		0.35		3.4	
		0.70		4.4	
		1.00		4.0	
Benzo(a)pyrene	TP01	0.35	5	7.30	x
Dibenzo(a,h)anthracene	Mound 1	0.50	0.24	0.76	✓
	Mound 2	0.30		1.50	
	TP01	0.35		1.80	
		0.70		1.10	
	TP03	0.10		0.99	
		0.35		0.91	
		0.70		0.62	
		1.00		0.70	
Asbestos	Mound 1	-	-	-	-

Notes

- C4SL - Provisional Category 4 Screening Levels
- S4UL - Suitable for Use Levels
- RwHP (Residential with Home-grown Produce)

When calculated the 95% upper confidence level for Benzo(b)fluoranthene & Dibenzo(a,h)anthracene exceeded the soil guidance values, therefore identifying that the site should be considered as contaminated with appropriate mitigation measures adopted.

5.5 Waste Classification

On the basis of the soils chemical test results, the soils were classified based on the identified hazard phases as defined in accordance with waste classification algorithms detailed in Environmental Agency publication WM3 (V.1, 2015), using the HazWaste Online software.

Using the results from the chemical analysis for the samples analysed, the following waste classification has been identified in the table below.

Table 5.14: Summary of Waste Classification				
Sample Location	Sample Depth (m)	Waste Classification	EWC Code	Additional Comments
Mound 1	0.50	Non-Hazardous	17 05 04	-
Mound 2	0.30	Non-Hazardous	17 05 04	-
Mound 3	0.10	Hazardous	17 05 03	Due to TPH
BH1	0.25	Non-Hazardous	17 05 04	-
BH1	2.00	Non-Hazardous	17 05 04	-
BH1	2.60	Non-Hazardous	17 05 04	-
BH1	12.30	Non-Hazardous	17 05 04	-
BH2	0.50	Non-Hazardous	17 05 04	-
BH2	1.50	Non-Hazardous	17 05 04	-
BH2	2.50	Non-Hazardous	17 05 04	-
BH2	13.50	Non-Hazardous	17 05 04	-
TP01	0.10	Non-Hazardous	17 05 04	-
TP01	0.35	Non-Hazardous	17 05 04	-
TP01	0.70	Non-Hazardous	17 05 04	-
TP01	1.00	Non-Hazardous	17 05 04	-
TP02	0.35	Non-Hazardous	17 05 04	-
TP02	0.70	Non-Hazardous	17 05 04	-
TP03	0.10	Non-Hazardous	17 05 04	-
TP03	0.35	Non-Hazardous	17 05 04	-
TP03	0.70	Non-Hazardous	17 05 04	-
TP03	1.00	Non-Hazardous	17 05 04	-
TP04	0.35	Non-Hazardous	17 05 04	-
TP04	1.00	Non-Hazardous	17 05 04	-

Conditions may exist between sampling points which are not representative of testing provided at the site. If anomalous materials are encountered at the site during excavation, the classification should be revisited.

It should be noted that the receiving landfill sites and the Environment Agency have ultimate authority in deciding whether a waste may be accepted, regardless of its classification.

HazWaste Online outputs are included in **Annex D**.

SECTION 6 Qualitative Risk Assessment/Mitigation Measures

The following is a representation of environmental processes on the site and its immediate vicinity. Its purpose is to identify potential contaminants, pathways and receptors with a view to identifying potential and significant pollution linkages.

6.1 Site Summary

Historically, the site has comprised a parcel of open land that was used as part of a sewage farm from before mapping began in 1879. From 1991 to sometime before 2001 the site forms the very north eastern boundary of a gravel pit. The site itself has remained largely unchanged from this time.

Historically, the surrounding area (<250m) has typically comprised open land that formed part of the sewage farm and various commercial and industrial usage. A gravel pit was noted directly to the west of site, extending onto the site itself, recorded between 1970 to sometime before 2001. This area was later used as a landfill and then developed as a recycling centre.

A summary of the ground conditions encountered during the Ground Investigation is given in the table below:

Table 6.1 Summary of Ground Conditions				
Stratum	Depth From (m)	Depth to (m)	Minimum Thickness (m)	Maximum Thickness (m)
Made Ground	0.00	1.00 / 3.50	1.00	3.50
Superficial Deposits	1.00 / 3.50	4.50 / 5.10	1.10	2.70
Lambeth Group	4.50 / 5.10	13.10 / 13.60	8.00	9.10
Chalk Group	13.10 / 13.60	>20.00	Unproven	

The Aquifer Designation Map for the area shows the site to be underlain by a 'Secondary A' Aquifer. These aquifers consist of permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

Surface and perched groundwater flows from the site are likely to be in a northerly following the natural topography of the wider area. These waters will probably be collected by the inland river running south to north adjacent the western boundary.

6.2 Potential Contaminants

6.2.1 Soils

When calculated the 95% upper confidence level for Benzo(b)fluoranthene & Dibenzo(a,h)anthracene exceeded the soil guidance values. In addition, asbestos containing material (ACM) was encountered within one of the spoil mounds at the site (mound 1). Therefore, the site should be considered as contaminated with appropriate mitigation measures adopted and discussed in the sections below.

6.3 Potential Receptors

The potential receptors at the site potentially affected during construction of the development are summarised in the table below:

Table 6.2: Summary of Potentially Affected Receptors

Potentially Affected Receptors
Construction Workers
Neighbouring Site Users
Passers-by
Future Residents/ Visitors
Maintenance Contractors
Residents in the surrounding area
Persons who may come into contact with water in the vicinity of the site
Vegetation from phytotoxic contaminants
Building Materials from aggressive ground conditions
The underlying secondary aquifer
Nearby surface waters and the aquatic life within

The potential receptors at the site potentially affected following construction of the development are summarised in the table below:

Table 6.3: Summary of Potentially Affected Receptors Following Construction

Potentially Affected Receptors
Future Residents/ Visitors
Maintenance Contractors
Vegetation from phytotoxic contaminants
Building Materials from aggressive ground conditions
The underlying secondary aquifer
Nearby surface waters and the aquatic life within

6.4 Potential Pathways

The site is planned to be occupied by hard standing for parking cars and caravans together with office and washroom buildings, some landscaped areas and associated infrastructure.

How the proposed development finish affects the various possible contamination pathways is considered below, and summarised in Table 6.1.

Potential risks are present during and following construction of the development to potential receptors from ingestion, inhalation, dermal contact, surface water run-off, leaching and groundwater transport. By adhering to the following protection measures any risks can be considered very low.

Ingestion of soil/soil dust, dermal contact and ingestion of site grown vegetables

Any combustible materials found during excavations should be removed and replaced with suitable materials. The combustible materials should be suitably disposed of.

If materials are imported, which are not a natural quarry product with British Standard Certification, or are not sourced from a builders merchant, DIY store or retail outlet in bagged bulk form, analytical validation testing will be required, to ensure that imported materials is suitable and will not cause pollution to the site, and pose a risk to human health.

Any materials to be removed from site should be subject to the Waste Acceptance Procedure (WAP) in order to appropriately classify the waste for the correct type of landfill.

All service runs should be backfilled with inert materials to ensure that future maintenance workers / contractual workers do not come into contact with contaminated soils.

If during the development materials or abnormal ground conditions are encountered that are significantly different to those encountered in the investigation, the occurrence should be reported to the Engineer and appropriate action taken prior to continuing with the works.

The appointed contractor(s) should as a minimum;

1. Comply with all current Health and Safety regulations
2. Provide Method Statements and Risk Assessments in place to deal with measures set out in this section
3. Comply with Control of Substances Hazardous to Health (COSHH) Assessment
4. Maintain a good level of Personal Protection Equipment (PPE)
5. Maintain a good level of hygiene by site workers
6. Put in place dust suppression measures when necessary

The contractor(s) must also strictly adhere to the relevant Pollution Prevention Guidelines which aim to minimise detrimental harm to the environment and health.

Within the documentation prepared by the contractor(s), the following information should be provided, but not limited to:

1. Project Description
2. Key participants/contractor(s)
3. Technical procedures
4. Phasing of works and approximate timescales
5. Site plans to scale
6. Details of consents or license needed
7. Health and Safety, COSHH Assessment, Method Statements and Risk Assessments
8. Emergency contingencies

In addition, the following precautions should also be taken.

1. All potential chemicals and associated risks and emergency procedures for spills/leaks should be considered in a site risk assessment and the details provided to all site employees
2. Any potential pollutant materials or chemicals/detergents used on site should be adequately stored in suitable containers, with clear labelling.
3. Any oil or hazardous substance containers and associated pipe works should be enclosed within a bund.
4. Care taken during delivery of materials, with correct supervision and labelling detailing the substance and its quantities.
5. All delivery drivers should be informed of procedures and restrictions
6. Any materials on delivery should be covered to ensure no spillage from the vehicle.
7. Any detergents, paints, chemicals etc. should not be allowed to be discharged into surface drains or water courses
8. Washing out and cleaning of concrete/cement plant should be carried out in a contained area with adequate measures to collect all run-off water.
9. Security and prevention of vandalism, especially of oil drums/containers.

It is considered that the site will be sufficiently fenced off during development and that dust suppression measures will be made if required, meaning there will be no risk to neighbouring site occupants and passers-by.

The results of the chemical testing have revealed elevations of benzo(b)fluoranthene & dibenzo(a,h)anthracene that are above soil guidance values identified for the site. Therefore, remediation will be required across the site to render it fit for use.

Given the nature of the development and levels of contaminants encountered a cover system will likely be the most appropriate form of remediation. Current design proposals are to cover most of the site with hardstanding, which will act as a suitable cover material. 600mm of inert suitable materials will be required within proposed soft-landscaped areas. Alternatively, the made ground material can be removed to an appropriate landfill facility.

Inhalation of soil dust /ground gas/radon

Protection of site workers from soil dust inhalation can be minimised by simple health and safety measures and dust suppression. Neighbouring site occupants and passers-by will similarly not be at risk with dust suppression.

It is considered that site workers, passers-by and neighbouring site occupants are not at risk from ground gas or vapours.

All risks to site users from dust inhalation will be eliminated by appropriate dust suppression measures.

Site end users, upon completion, will similarly not be at risk from soil dust/vapours once the above-mentioned remedial measures have been carried out.

Based on the initial 6 rounds of gas monitoring at the site a conservative Gas Screening Value (GSV) 0.012 l/hr has been derived using the highest ground gas concentration (CO₂ at 12.4%) and the highest flow rate recorded (0.1/h).

Due to the level of carbon dioxide found to be in excess of 5% 'Gas Characteristic Situation 2' should be adopted for the site.

The above gas risk assessment is in accordance with the following guidance:

- CIRIA guidance C665 (2007), 'Assessing risks posed by hazardous ground gases to buildings'
- BS8485:2015 A1 2019, 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'

Further measures to deal with ground gas are discussed in Section 8.

Bitumen classed as Asbestos Containing Material (ACM) was encountered within Spoil Mound 1. Quantification revealed a level of below 0.1%. A value of 0.1% classifies the result as below the level for hazardous waste. No loose fibres were encountered at the site and so the risk of airborne fibres to site receptors during and post construction is considered to be low.

However, it would be prudent to undertake further sampling within the spoil mounds to confirm the levels of asbestos containing material present.

Surface water run-off/leaching into the groundwater/groundwater transport

1. Short-term

In respect of physical effects of the site works during the construction period, there is a very low risk to the environment/adjacent land and water bodies from digging foundations, moving contaminated soil, runoff from construction materials and/or exposed ground, wheel washings and oil or chemical spills.

All adverse effects should however be preventable by due diligence to good construction practice and housekeeping in preventing surface runoff and the spillage of materials. The basic measures that should be taken are as follows:

- Prepare a drainage plan
- Carry out any activities that could cause pollution in a designated, bunded area, away from rivers or boreholes
- Use settlement ponds to remove silty water;
- Store all oils and chemicals in a fully bunded area to prevent leaks or spills

It should be noted that the appointed contractor should provide Method Statements and Risk Assessments to deal with these matters.

2. Long-term

The chemical analysis of soil beneath the site constitutes a Level 2 assessment in terms of Remedial Targets Methodology, where the primary receptor/compliance point is the groundwater.

No leachate or groundwater chemical testing has been undertaken; however it is considered that the low levels of total contaminants will have correspondingly low levels of leachate and will, therefore, not pose a risk to the aquatic environment.

In addition, it is considered that the risk to the aquatic environment is low due to environmental setting as detailed below:

1. Contaminant concentrations within the site's near surface soils were low and leachates derived from these soils are likely to contain even lower contaminant concentrations. Therefore, if leachates did migrate to a controlled water the effect is likely to be negligible.
2. Site is proposed to be fully capped by hardstanding limiting contact between surface water and potentially impacted materials.
3. The presence of an underlying Secondary Aquifer so the groundwater beneath the site will currently be of low value.
4. There are no groundwater abstraction licenses within the area.
5. The effect of natural attenuation, dilution and absorption will reduce contaminant concentrations with groundwater.

It is therefore considered that there is likely to be a low risk to the aquatic environment and that the next level of assessment (Level 3) is not required, given the environmental setting detailed above.

Permeation of Water Pipes

If water pipes are to be laid beneath the site an assessment should be made, by the water provider, of soils along the route of the pipe with reference to the material selection criteria using the UKWIR methodology.

6.5 Human Health Risks

A Qualitative Risk Assessment on the potential human health effects is detailed in Table 6.1 below:

Table 6.4: Human Health Risk Assessment

Source	Pathway	Target	Risk Assessment	Mitigation Measures
Made Ground – (PAH's) & ACM	Dermal contact with soil/dust. Inhalation and ingestion of soil/soil dust	Construction workers	Low Risk with protection measures	COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. <i>Further sampling of the stockpiles is recommended to confirm the levels of ACM present within the spoil mounds</i>
Made Ground - (PAH's) & ACM	Dermal contact with soil/dust. Inhalation and ingestion of soil/soil dust	Neighbouring site occupants, Passers-by	Low Risk during excavation phase of development and on completion	Site screening and dust suppression measures if required
Made Ground - (PAH's) & ACM	Dermal contact with soil/dust. Inhalation and ingestion of soil/soil dust, ingestion of site grown vegetables	Site end users	Low Risk with remediation	Capping of the site with proposed areas of hardstanding and 600mm of clean inert material in soft landscaped areas is required
Landfill and Ground Gas	Inhalation	Site end users	Very low to Low Risk	Due to the level of CO2 in excess of 5% 'Gas Characteristic Situation 2' should be adopted for the site. See Section 8 for further remediation details.
Radon Gas	Inhalation	Site end users	Low Risk	No Radon protective measures are required.
Made Ground - (PAH's) & ACM	Permeation of water pipes	Site end users	Low Risk	All chemical lab results to be forwarded to the water provider to assess pipe specification. Made Ground within service trenches should be removed and replaced with clean fill.

6.6 Risks to the Aquatic Environment

A Qualitative Risk Assessment on the potential effects to the aquatic environment is detailed in Table 6.2 below:

Table 6.5: Risks to the Aquatic Environment

Source	Pathway	Target	Risk Assessment	Mitigation Measures
Made Ground - (PAH's) & ACM	Surface water run-off	Surface Water	Low Risk due to the environmental setting and low concentrations identified.	Not Applicable
	Leaching into Groundwater	Groundwater	Reduced risk of contaminant migration and deep transmission is due to the installation of drainage systems and the effect of natural dilution and attenuation.	
Made Ground - (PAH's) & ACM	Leaching into Groundwater	Groundwater	Low Risk during construction and excavation phase of development	Measures to avoid accidental spillage of materials during earthmoving activities, and to control surface run off

If groundwater sampling is required then additional work involving a mini percussive rig will be required to install groundwater monitoring standpipes.

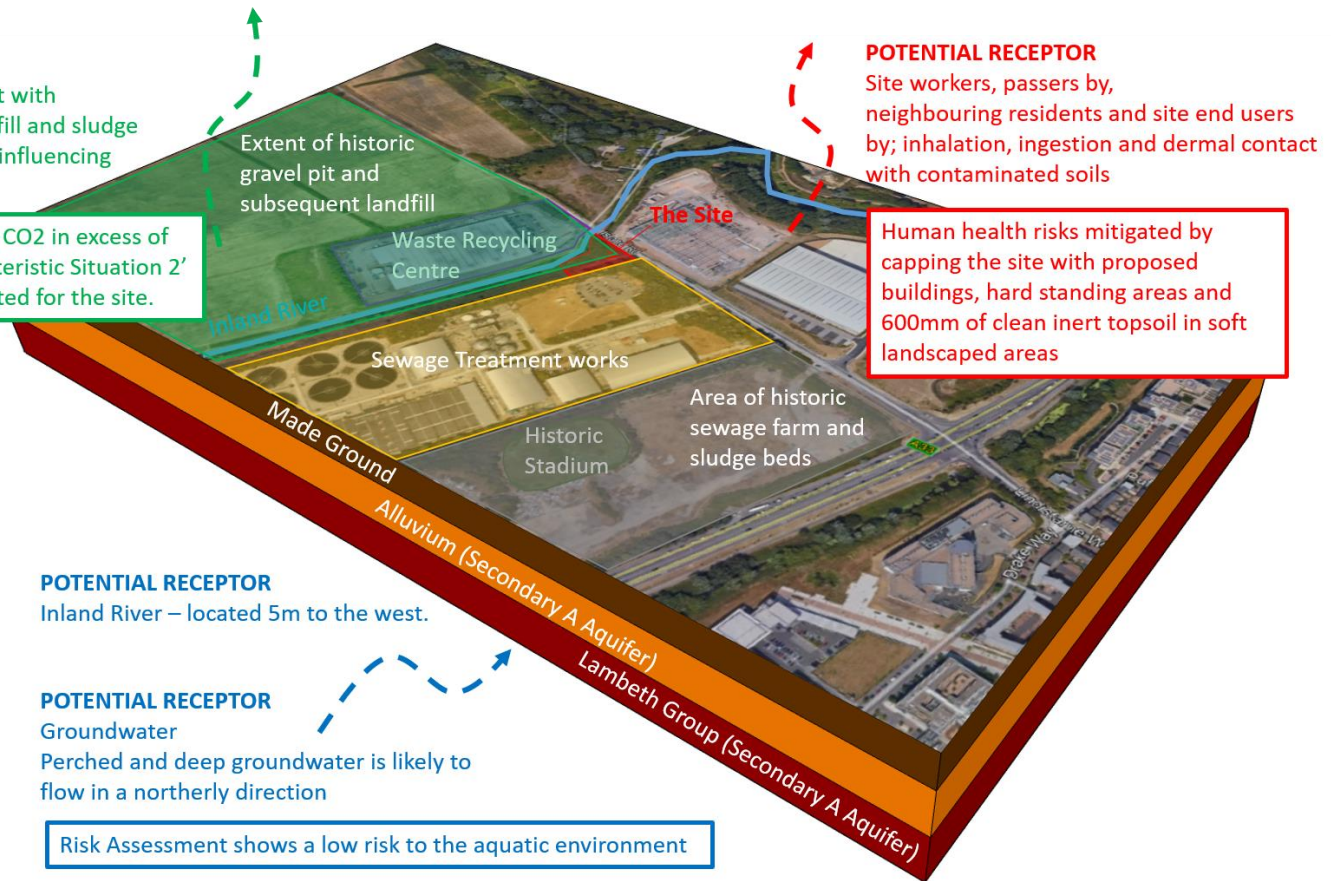
6.7 Site Conceptual Model

A schematic cross-section of the site is presented below. The cross section is based on the information available from the recent desk study and site investigation. The model is schematic and not to scale.

POTENTIAL RISK**Ground Gas**

Historic gravel pit with subsequent landfill and sludge beds likely to be influencing the site

Due to levels of CO₂ in excess of 5% 'Gas Characteristic Situation 2' should be adopted for the site.



Drawing 6.1: Revised Site Conceptual Model

SECTION 7 Geotechnical Laboratory Testing Results

7.1 General

A number of bulk, undisturbed and solid core samples were collected, and dispatched to the UKAS accredited laboratories of Geolabs for soil and/or rock property testing, in accordance with the following:

1. Methods of test for soils for civil engineering purposes – Parts 1 to 8 (BS 1377): 1999.
2. The International Society for Rock Mechanics (ISRM) Methods: 1985.

The results of the below property tests are presented in **Annex D** and discussed below.

7.1.1 Classification Testing

In order to assess the classification characteristics underlying the site, bulk samples were collected, and dispatched to the laboratory for the following soil property tests:

- 8No. Moisture Content (MC)
- 8No. Plasticity Index (P.I)
- 10No. Particle Size Distribution (PSD)
- 4No. Sedimentation Analysis (SA)
- 6No. Intact Dry Density (IDD) / Saturation Moisture Content (SMC) of Chalk

In addition, in order to assess the aggressiveness of the underlying the site, bulk samples were collected and dispatched to the laboratory for the following soil chemical tests:

- 11No. BRE SD1 Suite D

A summary of the soil classification test results are shown in the tables below.

Table 7.1a: Summary of Soil Classification Test Results – PI, IDD & SMC

Test	Location	BH1	BH1	BH1	BH2	BH2	BH2	BH2	BH2	BH3	BH3	BH3	BH3	BH3	BH3
	Depth	3.00	16.30	19.20	2.00	4.50	12.10	13.10	16.20	1.80	4.00	6.50	13.00	13.60	14.80
	Unit	rTS	CG	CG	rTS	SD	UF	CG	CG	SD	SD	LG	UF	CG	CG
Moisture Content	%	21.2	30.0	72.3	69.2	16.0	26.5	30.1	31.5	38.8	19.1	25.0	19.3	26.5	29.1
Saturation MC ^(Chalk)	%	-	31	53	-	-	-	30	32	-	-	-	-	27	29
Intact Dry Density ^(Chalk)	Mg/m ³	-	1.48	1.11	-	-	-	1.49	1.45	-	-	-	-	1.57	1.51
Bulk Density	Mg/m ³	-	1.93	1.92	-	-	-	1.94	1.91	-	2.04	2.20	-	1.99	1.95
Plasticity	Liquid Limit	%	41	-	-	92	31	47	-	-	39	37	31	54	-
	Plastic Limit	%	27	-	-	31	14	23	-	-	20	17	14	18	-
	Plasticity Index	%	14	-	-	91	17	24	-	-	19	20	17	36	-
	% <425µm	%	36	-	-	65	86	100	-	-	90	54	100	72	-
	Modified PI	%	5.0	-	-	59.2	14.6	24	-	-	17.1	10.8	17	25.9	-

Notes

- Sample Type: rTS (Relic Topsoil), MG (Made Ground), SD (Superficial Deposits), LG (Lambeth Group), UF (Upnor Formation), CG (Chalk Group)

Table 7.1b: Summary of Soil Classification Test Results - BRE

Test	Location		BH1	BH1	BH1	BH2	BH2	BH2	BH2	BH3	BH3	TP4	TP4
	Depth		2.60	12.30	13.00	1.50	2.50	4.50	12.10	6.95	14.00	0.70	1.00
	Unit		rTS	LG	LG	rTS	SD	SD	UF	LG	CG	MG	SD
BRE	Total Sulphate	%	1.1	0.72	2.2	0.23	0.090	0.11	4.5	0.33	0.066	0.065	0.47
	2:1 Sulphate	g/l	0.13	<0.010	0.26	0.013	<0.010	0.038	0.22	0.055	0.022	0.088	0.069
	pH	-	7.9	8.2	7.9	8.1	8.1	8.3	8.2	8.6	9.2	8.1	8.0
	Chloride	g/l	0.017	<0.010	<0.010	0.056	0.068	0.049	<0.010	<0.010	<0.010	0.058	0.090
	Total Sulphur	%	0.21	0.17	0.84	0.068	0.022	0.026	0.99	0.071	0.038	0.020	0.081
	Magnesium	g/l	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	-	-	-	<0.010	<0.010
	Nitrate	g/l	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	0.014	<0.010	0.021

Notes

- Sample Type: rTS (Relic Topsoil), MG (Made Ground), SD (Superficial Deposits), LG (Lambeth Group), UF (Upnor Formation), CG (Chalk Group)

Table 7.1c: Summary of Soil Classification Test Results - PSD												
Test		Location	BH1	BH1	BH1	BH2	BH2	BH2	BH3	BH3	BH3	BH3
		Depth	2.50	3.50	7.30	3.50	8.80	11.80	1.40	2.60	4.00	10.40
		Unit	rTS	SD	LG	SD	LG	UF	rTS	SD	SD	LG
Particle Size Distribution	Cobbles	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Gravels	%	23.1	69.7	0.0	72.6	0.1	68.9	11.1	53.5	28.1	0.1
	Sands	%	53.7	21.8	81.3	26.6	97.3	25.0	32.6	43.7	17.8	95.3
	Silt & Clay	%	-	8.5	-	0.8	2.6	6.1	-	2.8	-	4.6
	Silt	%	19.3	-	14.1	-	-	-	38.0	-	42.9	-
	Clay	%	3.9	-	4.6	-	-	-	18.3	-	11.2	-

Notes

- Sample Type: rTS (Relic Topsoil), SD (Superficial Deposits), LG (Lambeth Group), UF (Upnor Formation), CG (Chalk Group)

7.1.2 Shear Strength Testing

In order to assess the shear strength characteristics underlying the site, undisturbed samples were collected and dispatched to the laboratory for the following soil property tests:

- 3No. Unconsolidated Undrained Tri-axial (UU)

A summary of the Unconsolidated Undrained Triaxial test results are shown in the table below.

Table 7.2: Summary of Undrained Unconsolidated Triaxial Test Results				
Unconsolidated Undrained (UU)	Location	BH1	BH3	BH3
	Depth (m)	3.00	4.00	6.50
	Unit	rTS	SD	LG
Cell Pressure (kPa)		60	80	130
Undrained Shear Strength (kPa)		13	7	81

Notes

- Unit: rTS (Relic Topsoil), SD (Superficial Deposits), LG (Lambeth Group)

SECTION 8 Engineering Recommendations

8.1 Preparation of Site

The existing grass and scrub vegetation, including all roots and any trees to be removed (and not subject to preservation orders) should be grubbed up and removed from beneath the proposed buildings and roadways.

The reduced levels should be brought up to the required levels with well, compacted imported granular materials. Department of Transport (DoT) Type 2 sub-base or similar may be used and should be compacted in layers, in accordance with the Specification for Highway Works. Alternatively, appropriate selected inert imported fill could be used.

Allowances should be made for removing any 'soft spots/area' and their replacement with well compacted granular materials as previously described. The excavated materials will be unacceptable as structural fill and should be removed from site and taken to an appropriately licensed tip.

All materials to be removed from site should be subject to the appropriate Waste Acceptance Protocol (WAP) and taken to an appropriately licensed tip.

Contingencies should be made for the protection/diversion of any underground services present beneath the site, brought about as a result of the proposed works.

Contingencies should also be made for the protection and any necessary temporary/permanent support of nearby walls.

8.2 Foundation Solution

The ground conditions from the site investigation can be summarised as follows:

Table 8.1 Summary of Ground Conditions				
Stratum	Depth From (m)	Depth to (m)	Minimum Thickness (m)	Maximum Thickness (m)
Made Ground	0.00	1.00 / 3.50	1.00	3.50
Superficial Deposits	1.00 / 3.50	4.50 / 5.10	1.10	2.70
Lambeth Group	4.50 / 5.10	13.10 / 13.60	8.00	9.10
Chalk Group	13.10 / 13.60	>20.00	Unproven	

During drilling perched groundwater was encountered between 2.00m and 3.00m bgl. Post investigation monitoring has confirmed groundwater levels between 1.37m and 2.30m bgl.

Based on the encountered ground conditions the following foundation solution is recommended.

Piles

Due to the presence of variable Made Ground and very soft Superficial Deposits underlying the site to a significant depth, the use of normal mass concrete shallow foundations founded at shallow depth will prove impractical and would lead to unacceptable settlements and are, therefore, not recommended.

We therefore recommend that a piled foundation solution be founded within the Lambeth Group. Piles should avoid penetrating the Chalk Group to avoid creating a contamination pathway into this Principal aquifer.

Due to the nature of the ground, the piles are likely to be a combination of skin friction (friction piles) and end-bearing piles.

Due to the nature of the site, driven pre-cast concrete drive piles may be appropriate. However, this technique should be confirmed by a specialist piling contractor taking into account vibration issues to the recycling centre building located to the west.

If vibration from the driven piles is anticipated to be problematic and not tolerable with adjacent structures, a Continuous Flight Auger (CFA) pile should be adopted.

Pile depths will be a function of the required loads and pile diameters. However, it is anticipated that average pile lengths will be between 10m and 12m. Variations in the given pile lengths should also be expected.

The following table gives initial calculations for a 0.250m and 0.275m square driven piles into the Lambeth Group to be used for preliminary estimation only.

Table 8.2 Preliminary Pile Capacity Values						
Ground Conditions			Ultimate Pile Capacity			
Stratum	Depth Encountered (mbgl)		Skin Friction (kN)		End Bearing (kN)	
	From	To	0.250m	0.275m	0.250m	0.275m
Made Ground	GL	1.00 / 3.50	N/A ¹	N/A ¹	-	-
Superficial Deposits	1.00 / 3.50	4.50 / 5.10	46	51	-	-
Lambeth Group (inc. Upnor Formation)	4.50 / 5.10	13.10 / 13.60	335 ³	368 ³	73.5	89

Table 8.2 Notes:

1. The shallow deposits encountered should not be relied upon for pile capacity calculations due to low confidence in composition and density of the material.
2. Foundation Design and Construction, MJ Tomlinson, 1986
3. Based on an adhesion factor of 0.3 taken from Tomlinson 1986 using average undrained shear strength

If higher loadings than those given above are required the pile diameter should be increased so as to avoid piling into the underlying Chalk Group.

Allowances should also be made for negative skin friction that could develop in the cohesive Alluvial deposits.

For the size and type of pile recommended founded within the competent Lambeth Group, the total settlements should not exceed 10mm, with differential movements between adjacent piles being less than half this value.

The above estimated working loads, type and length of piles should be confirmed by the specialist piling contractor. It may also be prudent to drive a number of test piles at selected locations to confirm their drivability, anticipated lengths and safe working loads.

Allowances should be made for an element of pre-excavation and/or re drilling of piles where obstructions are encountered in the made ground that were not encountered during the ground investigation.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

Soil Stabilisation

Alternatively, to the above, ground improvement techniques such as soil stabilisation may be suitable for the site and may be a more environmentally friendly and economic option. A specialist contractor with relevant experience in the design and installation of this technique should be consulted for further advice.

8.2.1 Infrastructure

As mentioned in Section 8.2 it is considered that foundations will be piled due to the underlying shallow ground conditions.

Therefore, appropriate measures should be taken in order to prevent misalignment issues due to disproportionate settlement between the proposed office and wash room buildings and the associated infrastructure, which will not be piled.

In addition, it is recommended that for any hard standing or service entry points adjacent the proposed office and wash room buildings that the prepared surface should be covered by a geo-grid and 'terram' prior to further infilling, in accordance with Section 8.4, in order to reinforce the formation.

Should a ground improvement technique such as soil stabilisation be adopted for the site then the risk of differential settlement and misalignment issues with the surrounding infrastructure could be negated.

8.2.2 Floor Slabs

Based on Plasticity testing outlined in Section 7.1.1, the underlying Alluvium exhibit a Modified Plasticity Index of >10%. In addition, due to the depth of Made Ground underlying the site (>600mm) ground floor slabs should be designed as suspended in accordance with NHBC guidelines.

Void former may be required beneath suspended concrete floors due to the plastic nature of the surface cohesive soils.

Allowances should be made for the removal of any 'soft spots' and their replacement with a suitable concrete mix or well-compacted granular material in layers to the specification for Highway Works.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

8.3 Excavations and Formations

Most shallow excavations should be possible with normal soil excavating machinery, although significant allowances should be made for a hydraulic breaker when excavating out any historic foundations, concrete floor slabs and other buried obstructions that were not encountered during the ground investigation.

Post investigation groundwater was encountered between 1.37m and 2.30m bgl.

Therefore, it is possible that groundwater may be encountered during foundation excavations. However, any inflows should be dealt with using conventional pumping techniques.

It should also be noted that during times of high rainfall a higher groundwater table may be encountered.

The sides of any excavations deeper than 1.00m, especially within the granular deposits, should be supported by planking and strutting or other proprietary means.

The sub-formations/formations will be susceptible to loosening, softening and deterioration by exposure to weather (rain, frost and drying conditions), the action of water (flood water or removal of groundwater) and site traffic.

Formations should never be left unprotected and continuously exposed to rain causing degradation, or left exposed/uncovered overnight, unless permitted by a qualified engineer.

Construction plant and other vehicular traffic should not be operated on unprotected formations.

As a minimum the formation/excavation surfaces must be protected by a minimum thickness of 200mm of hard cover immediately after exposure.

Allowances should be made for trimming, re-trimming and re-compaction if necessary and for the removal of soft spots and their replacement with well compacted granular materials.

It is also recommended that if concerns still remain then a number of plate loading tests are carried out at formation level to confirm the suitability of the formations.

Allowances should be made for special precautions to prevent formation deterioration in addition to the above.

It is recommended that approval be gained from a qualified engineer of the formation condition before covering them with any subsequent construction.

8.4 New Access Road and Car Parking Areas

The in-situ CBR tests (3No) were carried out using a TRL DCP Probe within the area of the proposed roads and parking areas. The tests were typically undertaken from surface. A summary of the encountered layers and equivalent CBR values is given in the table below.

Table 8.3 Summary of CBR Values			
Location	Layer Number	Layer Base	CBR Value
BH1	1	192	3.7
	2	330	20.8
	3	380	55.1
	4	600	24.0
	5	645	48.7
	6	735	111.3*
	7	855	57.5
BH2	1	98	4.9
	2	266	13.7
	3	419	13.4
	4	493	28.8
	5	605	23.5
	6	792	18.0
BH3	1	161	7.7
	2	318	13.0
	3	507	7.9
	4	792	15.3

Notes:

- * High value likely due to obstruction within the Made Ground material

The in-situ CBR test results are presented in **Annex B** and should be referred to for specific depth related values.

At a construction depth of >0.25mbgl within the Made Ground a suggested CBR value of 2.5% is recommended due to the variability within this stratum.

Allowances should be made for the removal of any soft spots and their replacement with well-compacted imported granular materials as previously described.

8.5 Protection of Buried Concrete

The results of the BRE testing are given in Table 7.1b and the concrete design class is summarised in the table below:

Table 8.4: Summary of Concrete Design Class									
	Stratum	MG		SD		LG		CG	
	Unit	Min	Max	Min	Max	Min	Max	Min	Max
Total Sulphate	%	0.065	1.1	0.09	0.47	0.33	4.5	0.066	
2:1 Sulphate	g/l	0.013	0.13	0.038	0.069	0.055	0.26	0.022	
pH	-	7.9	8.1	8.0	8.3	7.9	8.6	9.2	
Chloride	g/l	0.017	0.058	0.049	0.09	<0.010		<0.010	
Total Sulphur	%	0.02	0.21	0.022	0.081	0.071	0.99	0.038	
Magnesium	g/l	<0.010		<0.010		<0.010	0.012	-	
Nitrate	g/l	<0.010	0.015	<0.010	0.021	<0.010		0.014	
Total Potential Sulphate	%	0.06	0.63	0.07	0.24	0.213	2.97	0.114	
Oxidisable Sulphates >0.3%?		No		No		Yes		No	
Design Sulphate Class		DS-1		DS-1		DS-4		DS-1	
ACEC Class		AC-1		AC-1		AC-4		AC-1	

Notes

- Sample Type: MG (Made Ground), SD (Superficial Deposits), LG (Lambeth Group), CG (Chalk Group)

Shallow groundwater was encountered at the site and it is conservatively deemed to be mobile.

8.6 Evaluation of In-situ Gas Monitoring Results

As previously discussed, 3 gas-monitoring wells were installed to enable monitoring for the presence of methane, carbon dioxide and oxygen following completion of the fieldworks.

Based on the 6 rounds of gas monitoring at the site a conservative Gas Screening Value (GSV) 0.012 l/hr has been derived using the highest ground gas concentration (CO₂ at 12.4%) and the highest flow rate recorded (0.1/h).

Due to the presence of carbon dioxide concentrations above 5%, 'Gas Characteristic Situation 2' should be adopted for permanent buildings proposed at the site. Static buildings with void space below will not require gas protection.

Based upon the above it is deemed that the ground gases beneath the site is a potential risk to human health receptors.

The ground gas regime at the site has been preliminarily classified as being 'low risk' and 'Gas Characteristic Situation 2' as per CIRIA guidance C665 (2007). Table 8.6 of the CIRIA guidance recommends that the following protection measures are incorporated into residential developments.

- All joints and penetrations through the floor slab or membrane must be sealed.
- Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200 g DPM². Or,
- Beam and block or pre-cast concrete slab and 2000 g DPM²/ reinforced gas membrane and underfloor venting
- All gas membrane installations need to be undertaken by an appropriately qualified technician and verified in accordance with CIRIA C735.

The gas monitoring results are presented in **Annex E**.

Annex A: Exploratory Hole Logs

 Consulting Geo-Technical & Geo-Environmental Engineers Site Investigation Contractors The Slate Barn, Lower Lowley, Dunsford, Exeter, EX6 7BP 01647 252414 www.terrafirmasouth.co.uk						Borehole No. BH1 Sheet 1 of 3						
Project Name Smallmead, Reading				Project No. 6683	Date 14/07/2020 to 15/07/2020		Hole Type CP					
Client Hampshire City Council				Co-ords E: 470687.00 N: 170812.00 L:	Water Strike Details			Logged By KS				
Contractor Paddy Brine Drilling		Plant Used Pilcon 150			Depth Strike 3.00	Time Elapsed 20	Rose To 2.20	Approved By PS				
								Scale 1:50				
Samples and Results					Depth, (Thickness)	Level	Stratum Description			Legend	Well	
Results	Type	Depth	Casing Water									
N=13 (2,2/3,3,4,3)	ES	0.25			(0.40)		MADE GROUND: Stiff yellowish brown slightly gravelly sandy silty CLAY with roots and rootlets. Gravel is subangular and subrounded brick, concrete and flint. Rare limestone cobble.					
	ES	0.50			0.40							
	D SPT(S) ES	1.00 1.00 1.25	1.20 Dry		1		MADE GROUND: Stiff brownish yellow slightly gravelly sandy silty CLAY. Gravel is subangular and subrounded fine to coarse flint, brick and rare coal. Rare brick cobble. Locally very gravelly					
	D	1.70			(2.00)							
N=4 (1,1/1,1,1,1)	D ES SPT(S)	2.00 2.00 2.00	2.00 Dry		2		1.90 to 2.40m - bands of soft grey and yellow clay with rootlets.					
	B ES	2.50 2.60			2.40							
	blows=12 recovery=80%	U	3.00 - 3.45			3	(1.10)	Possible Relict TOPSOIL: Soft to very soft greenish grey locally black and yellow slightly gravelly sandy clayey SILT. Gravel is subrounded and rounded fine to coarse flint				
	D B ES	3.45 3.50 - 4.00 3.70			3.50							
N=19 (2,3/4,5,5,5)	D SPT(S)	4.00 - 4.45 4.00	4.00 2.5		4	(1.10)	Medium dense bluish grey, white and orange slightly sandy slightly clayey subangular and subrounded fine to coarse flint GRAVEL. (ALLUVIUM)					
	B	4.60 - 5.00			4.60							
N=10 (1,2/2,2,3,3)	D SPT(S)	5.00 - 5.45 5.00	5.00 2.5		5		Medium dense, locally dense, bluish grey silty fine to medium SAND with rare subangular and subrounded fine to coarse flint gravels. (LAMBETH GROUP)					
	B	5.70 - 6.20			6							
N=30 (1,4/6,6,8,10)	D SPT(S)	6.50 - 6.95 6.50	6.50 3.0		7		5.00 to 11.00m - very silty					
	B	7.30 - 7.80			8							
N=50 (1,3/7,8,15,20)	D SPT(S)	8.00 - 8.45 8.00	8.00 3.5		8		8.00 to 9.00m - pockets of firm sandy SILT					
	B	8.80 - 9.30			(8.10) 9							
N=16 (1,2/4,4,4,4)	D SPT(S)	9.50 - 9.95 9.50	9.50 4.0									
Chiselling Details			Remarks					Borehole Diameter				
Depth Top	To (m)	Duration	Borehole terminated at scheduled depth.					Base Depth	Diameter	Remarks		
								20.00	150			
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.									

Project Name					Project No.		Date			Hole Type			
Smallmead, Reading					6683		14/07/2020 to 15/07/2020			CP			
Client					Co-ords		Water Strike Details			Logged By			
Hampshire City Council					E: 470687.00		Depth Strike	Time Elapsed	Rose To	KS			
Contractor				Plant Used		N: 170812.00		3.00	20	2.20	Approved By		
Paddy Brine Drilling				Pilcon 150		L:					PS		
										Scale 1:50			
Samples and Results					Depth, (Thickness)	Level	Stratum Description				Legend	Well	
Results		Type	Depth	Casing	Water								
N=32 (2,5/7,7,8,10)	B	10.30 - 10.80						Medium dense, locally dense, bluish grey silty fine to medium SAND with rare subangular and subrounded fine to coarse flint gravels. (LAMBETH GROUP)					
	D SPT(S)	11.00 - 11.45 11.00	11.00	4.0	11								
	B	11.70 - 12.30				12							
N=28 (2,4/5,6,8,9)	ES	12.30						Stiff grey slightly gravelly slightly sandy clayey SILT. Gravel is subrounded fine and medium chalk. Sand is fine and medium. (LAMBETH GROUP)					
	D SPT(S)	12.50 - 12.95 12.50	12.50	4.0	12.70								
	ES	13.00				13 (0.90)							
blows=75 recovery=0%	B	13.60 - 14.00						CHALK composed of white slightly gravelly slightly sandy SILT. Gravels are extremely weak, low density white subrounded fine to coarse chalk. Local gravel sized pockets of green sandy silt within matrix. (CHALK GROUP)					
	U	14.00 - 14.45				14 (0.90)							
	B	14.80 - 15.30				14.50							
N=34 (4,4/5,9,9,11)	B	14.80 - 15.30						CHALK composed of slightly sandy silty subrounded and rounded medium and coarse GRAVEL. Gravels are extremely weak to weak low density to medium density white chalk. Matrix is white. (CHALK GROUP)					
	D SPT(S)	15.50 - 15.95 15.50	15.50	4.0		15							
	B	16.30 - 16.80				16							
N=59 (5,9/9,12,18,20)	B	16.30 - 16.80											
	D SPT(S)	17.00 - 17.45 17.00	16.00	4.0	17 (5.50)								
	B	17.80 - 18.30				18							
N=50 (6,8/10,10,12,18)	B	17.80 - 18.30											
	D SPT(S)	18.50 - 18.95 18.50	16.00	4.0	19								
	B	19.20 - 19.80				19							
	D	20.00 - 20.45	16.00	4.0	20.00								

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

Project Name Smallmead, Reading	Project No. 6683	Date 15/07/2020 to 16/07/2020	Hole Type CP
Client Hampshire City Council	Co-ords E: 470702.00 N: 170786.00 L:	Water Strike Details Depth Strike: 2.80 Time Elapsed: 20 Rose To: 2.60	Logged By KS
Contractor Paddy Brine Drilling	Plant Used Pilcon 150		Approved By PS
			Scale 1:50

Samples and Results				Depth, (Thickness)	Level	Stratum Description	Legend	Well
Results	Type	Depth	Casing Water					
N=9 (3,2/2,2,2,3)	B	0.50	1.20 Dry	(0.10)		MADE GROUND: Firm brown slightly gravelly sandy clayey SILT with rootlets. Gravel is subrounded fine to coarse flint. MADE GROUND: Stiff orangish brown slightly sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse brick and flint with rare glass fragments and possible organic / charcoal material. MADE GROUND: Firm brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular and subrounded fine to coarse flint. Rare fragments of ceramic and wood. Possible MADE GROUND or reworked TOPSOIL. Soft brownish orange slightly sandy slightly gravelly silty CLAY. Gravel is subrounded fine to coarse flint. Organic charcoal type material present.		
	ES	0.50		(0.70)				
	D	0.60		0.80				
	ES	1.00		(0.40)	1			
	D SPT(S)	1.20		1.20				
	B	1.50		(1.20)				
blows=40 recovery=70%	ES	2.00	3.00 2.6	(0.40)	2	Very soft brownish yellow slightly sandy gravelly to very gravelly CLAY. Gravel is subrounded fine to coarse flint. (ALLUVIUM) Medium dense grey, white and brown slightly silty very sandy subrounded and rounded fine to coarse flint GRAVEL. (ALLUVIUM) 3.50 to 4.00m - sandy		
	U	2.00 - 2.45		2.40				
	B	2.50		(0.40)				
N=27 (3,6/6,7,7,7)	B	2.80 - 3.00	4.00 2.6	2.80		Firm bluish grey mottled brown slightly sandy silty CLAY. Sand is fine. (ALLUVIUM) Medium dense becoming very loose bluish grey very silty SAND. (LAMBETH GROUP)		
	D SPT(S)	3.00 - 3.45		(1.20)	3			
	B	3.00		3.00				
N=10 (1,1/2,2,2,4)	B	3.50 - 4.00	6.50 3.0	(1.10)				
	ES	3.70		4.00	4			
	D SPT(S)	4.00 - 4.45		4.00				
blows=50 recovery=90%	B	4.50	8.00 3.0	(6.70)				
	ES	4.50 - 5.00		5.10	5			
	U	5.00 - 5.45		5.45				
N=10 (1,1/1,1,2,6)	D	5.70 - 6.20	9.50 3.0		6			
	B	6.50		6.50				
	D SPT(S)	6.50 - 6.95		6.50				
N=11 (2,2/2,3,3,3)	B	7.20 - 7.80			7			
	D SPT(S)	8.00		8.00				
	B	8.00 - 8.45		8.00				
N=21 (3,3/5,5,5,6)	B	8.80 - 9.30			8			
	D SPT(S)	9.50		9.50				
	B	9.50 - 9.95		9.50				

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

Project Name Smallmead, Reading		Project No. 6683	Date 15/07/2020 to 16/07/2020			Hole Type CP
Client Hampshire City Council		Co-ords E: 470702.00 N: 170786.00 L:	Water Strike Details			Logged By KS
			Depth Strike	Time Elapsed	Rose To	Approved By PS Scale 1:50
Contractor Paddy Brine Drilling	Plant Used Pilcon 150		2.80	20	2.60	

Samples and Results				Depth, (Thickness)	Level	Stratum Description	Legend	Well
Results	Type	Depth	Casing Water					
N=4 (1,1/1,1,1,1)	B	10.40 - 11.00				Medium dense becoming very loose bluish grey very silty SAND. (LAMBETH GROUP)		
	D SPT(S)	11.00 - 11.45 11.00	11.00 2.0	11				
	B	11.80 - 12.00		11.80 (0.30)		Grey and black slightly sandy subangular and subrounded fine to coarse flint GRAVEL with low cobble content. (UPNOR FORMATION)		
	B	12.10 - 12.50		12.10		Stiff bluish grey silty CLAY. (UPNOR FORMATION)		
blows=150 recovery=0%	U	12.50 - 12.95		(1.00)				
	B	13.10		13.10		CHALK composed of slightly sandy very silty subrounded and rounded medium and coarse GRAVEL. Gravels are extremely weak to weak low density to medium density white chalk. Some flint gravels also present Matrix is white. (CHALK GROUP)		
	ES	13.50						
	D SPT(S)	14.00 - 14.45 14.00	14.00 2.5	14				
N=52 (5,5/7,10,15,20)								
N=33 (4,5/6,8,9,10)	D SPT(S)	15.50 - 15.95 15.50	15.50 2.5	15				
N=50 (6,8/10,10,14,16)	B	16.20 - 16.80		(6.90)				
	D SPT(S)	17.00 - 17.45 17.00	17.00 2.5	17				
N=46 (6,8/8,8,12,18)	B	17.80 - 18.30						
	D SPT(S)	18.50 - 18.95 18.50	17.00 2.5	18				
	B	19.20 - 19.80						
	D	20.00 - 20.45	17.00 2.5	20.00				

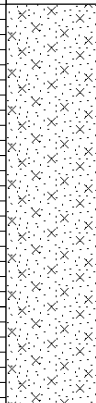
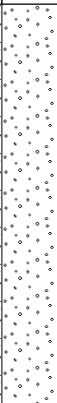
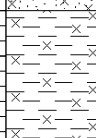
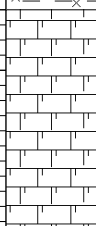
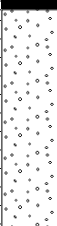
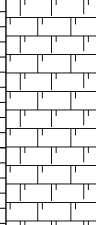
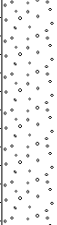
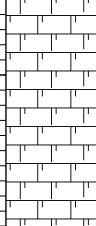
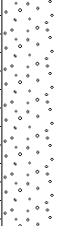
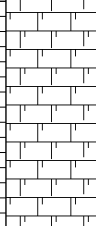
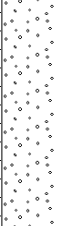
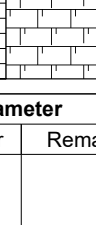
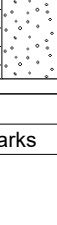
Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

Project Name Smallmead, Reading	Project No. 6683	Date 16/07/2020 to 17/07/2020	Hole Type CP
Client Hampshire City Council	Co-ords E: 470684.00 N: 170751.00 L:	Water Strike Details Depth Strike: 2.00 Time Elapsed: 20 Rose To: 1.70	Logged By KS
Contractor Paddy Brine Drilling	Plant Used Pilcon 150		Approved By PS
			Scale 1:50

Samples and Results				Depth, (Thickness)	Level	Stratum Description	Legend	Well
Results	Type	Depth	Casing Water					
N=9 (3,2/2,2,2,3)				(0.10) 0.10		MADE GROUND: Firm brown slightly gravelly sandy clayey SILT with rootlets. Gravel is subrounded fine to coarse flint.		
				(1.30)		MADE GROUND: Stiff yellowish brown slightly gravelly sandy silty CLAY. Gravel is subangular and subrounded flint, coals, brick and charcoal type material.		
	D	0.90		1				
blows=12 recovery=0%	SPT(S)	1.20 - 1.65 1.20	1.20 Dry	1.40		MADE GROUND / Possible Relict TOPSOIL: (Soft?) brown slightly gravelly sandy SILT with many rootlets. Gravel is subrounded fine and medium flint. Fragments of charcoal or coal type material.		
	B	1.40 - 1.80		1.80		Very soft bluish grey and yellow slightly sandy slightly gravelly silty CLAY. Gravel is subrounded fine and medium flint. (ALLUVIUM)		
	U	2.00 - 2.45		2	(0.50)	Very loose to loose grey, orange and black silty very sandy subangular to rounded fine to coarse flint GRAVEL. (ALLUVIUM)		
N=4 (1,2/1,1,1,1)	B	1.80 - 2.00		2.30				
	D	3.00 - 3.45 3.00	3.00 2.0	3	(1.20)			
	SPT(S)							
blows=25 recovery=70%	B	3.50 - 4.00		3.50		Firm brownish grey mottled orange and bluish grey slightly gravelly CLAY. Gravel is subrounded and rounded fine flint. (ALLUVIUM)		
	U	4.00 - 4.45		4	(1.00)			
	D	4.45		4.50		Stiff bluish grey CLAY. (LAMBETH GROUP)		
N=15 (2,2/3,3,4,5)	B	4.60 - 5.00						
	D	5.00 - 5.45 5.00	5.00 2	5				
	SPT(S)							
blows=80 recovery=50%	B	5.80 - 6.30		6		5.50 to 7.50m - slightly sandy and silty. Sand is fine.		
	U	6.50 - 6.95		7	(4.50)			
	D	6.95						
N=32 (3,5/7,7,9,9)	B	7.20 - 7.80						
	D	8.00 - 8.45 8.00	8.00 2	8				
	SPT(S)							
N=28 (3,6/6,7,7,8)	B	9.00 - 9.50		9	9.00	Medium dense to dense bluish grey silty SAND with occasional cobble sized inclusions of firm silty clay. (LAMBETH GROUP)		
	D	9.50 - 9.95 9.50	9.50 2					
	SPT(S)							

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration	Borehole terminated at scheduled depth.	Base Depth	Diameter	Remarks
				20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

 Consulting Geo-Technical & Geo-Environmental Engineers Site Investigation Contractors The Slate Barn, Lower Lowley, Dunsford, Exeter, EX6 7BP 01647 252414 www.terrafirmasouth.co.uk						Borehole No. BH3 Sheet 2 of 3						
Project Name Smallmead, Reading				Project No. 6683		Date 16/07/2020 to 17/07/2020			Hole Type CP			
Client Hampshire City Council				Co-ords E: 470684.00 N: 170751.00 L:		Water Strike Details			Logged By KS			
Contractor Paddy Brine Drilling						Plant Used Pilcon 150		Depth Strike 2.00	Time Elapsed 20	Rose To 1.70	Approved By PS	
									Scale 1:50			
Samples and Results					Depth, (Thickness)	Level	Stratum Description			Legend	Well	
Results	Type	Depth	Casing	Water								
N=35 (4,8/8,9,9,9)	B	10.40 - 10.80			11	(3.70)	Medium dense to dense bluish grey silty SAND with occasional cobble sized inclusions of firm silty clay. (LAMBETH GROUP)					
	D SPT(S)	11.00 - 11.45 11.00	11.00	2								
N=38 (3,5/6,8,8,16)	B	12.00 - 12.50			12	12.70	Stiff bluish grey mottled green silty CLAY. (POSSIBLE UPNOR FORMATION)					
	D SPT(S)	12.50 - 12.95 12.50	12.50	2								
N=16 (4,4/4,4,4,4)	B	13.00 - 13.50			13	13.60	CHALK composed of slightly sandy silty subrounded and rounded medium and coarse GRAVEL. Gravels are extremely weak to weak low density to medium density white chalk. Matrix is white. (CHALK GROUP)					
	D SPT(S)	14.00 - 14.45 14.00	14.00	2								
N=23 (3,4/5,6,6,6)	B	14.80 - 15.30			15	16	15.00 to 20.00m - very silty and rare flint gravels and cobbles					
	D SPT(S)	15.50 - 15.95 15.50	15.50	2								
N=40 (6,8/10,14,16,0)	B	16.20 - 16.80			16	(6.40)						
	D SPT(S)	17.00 - 17.45 17.00	17.00	2								
N=60 (6,10/12,14,16,18)	B	17.70 - 18.30			17	18						
	D SPT(S)	18.50 - 18.95 18.50	17.00	2								
N=76 (6,9/12,17,22,25)	B	19.20 - 19.80			18	19						
	D	20.00 - 20.45	17.00	2								
					20.00							
Chiselling Details					Remarks					Borehole Diameter		
Depth Top	To (m)	Duration	Borehole terminated at scheduled depth.					Base Depth	Diameter	Remarks		
								20.00	150			
					Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.							

Chiselling Details			Remarks	Borehole Diameter		
Depth Top	To (m)	Duration		Base Depth	Diameter	Remarks
			Borehole terminated at scheduled depth.	20.00	150	
			Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.			

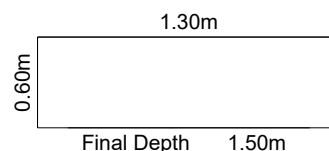
Project Name Smallmead, Reading	Project No. 6683	Date 07/07/2020 to 07/07/2020	Hole Type TP
Client Hampshire City Council	Co-ords E: 470707.00 N: 170806.00 L:	Water Strike Details Depth Strike Remarks	Logged By AS
Contractor Claude Fenton Plant Hire	Plant Used JCB 3CX		Approved By PS
			Scale 1:50

Samples and Results			Depth, (Thickness)	Level	Stratum Description	Legend
Results	Type	Depth				
	ES	0.10	(0.35)		MADE GROUND: Brown slightly sandy gravelly silty CLAY with high cobble content and abundant live rootlets. Gravel is angular to subrounded fine to coarse of flint and anthropogenic material: brick, concrete, plastic, clinker, metal.	
	ES	0.35	0.35 (0.35)		MADE GROUND: Firm brown sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of flint and minor brick.	
	ES	0.70	0.70 (0.20)		MADE GROUND: Firm grey sandy very gravelly CLAY with low cobble content. Gravel is angular to subrounded fine to coarse of flint and anthropogenic material: brick, concrete, plastic, glass, pottery, crisp packets.	
	ES	1.00	1 (0.60)		MADE GROUND: Firm dark grey mottled light grey and black slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and small concrete inclusions. Organic odours.	
			1.50		End of Trial Pit at 1.50m	
			2			
			3			
			4			

Remarks

Pit Stability: STABLE

Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.



Project Name Smallmead, Reading		Project No. 6683	Date 07/07/2020 to 07/07/2020		Hole Type TP
Client Hampshire City Council		Co-ords E: 470680.00 N: 170776.00 L:	Water Strike Details		Logged By AS
			Depth Strike	Remarks	
Contractor Claude Fenton Plant Hire	Plant Used JCB 3CX				Approved By PS
				Scale 1:50	

Samples and Results			Depth, (Thickness)	Level	Stratum Description	Legend
Results	Type	Depth				
	ES	0.10	(0.35)		MADE GROUND: Firm brown slightly sandy gravelly silty CLAY with high cobble content and abundant live rootlets . Gravel is angular to subrounded fine to coarse of flint and anthropogenic material: brick, concrete, plastic, pottery and clinker.	
	ES	0.35	0.35 (0.35)		MADE GROUND: Light brown sandy very silty GRAVEL. Gravel is angular to subangular fine to coarse flint and minor brick.	
	ES	0.70	0.70 (0.30)		MADE GROUND: Brown slightly silty sandy GRAVEL with large pockets of stiff multicoloured slightly sandy CLAY. Gravel is angular to subangular fine to coarse of flint and minor brick.	
	ES	1.00	1 1.00 (0.60) 1.60 (0.10) 1.70		MADE GROUND: Firm multicoloured (brown, pink, grey and yellow) slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse of flint. MADE GROUND: Soft dark grey sandy silty CLAY with organic patches and minor brick cobbles. Organic odours.	
			2		End of Trial Pit at 1.70m	
			3			
			4			

Remarks

Pit Stability:	STABLE
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Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.

1.50m

0.60m

Final Depth	1.70m
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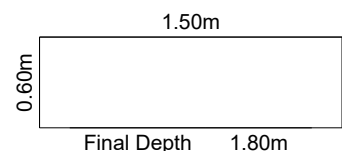
Project Name Smallmead, Reading		Project No. 6683	Date 07/07/2020 to 07/07/2020		Hole Type TP
Client Hampshire City Council		Co-ords E: 470683.00 N: 170814.00 L:	Water Strike Details		Logged By AS
			Depth Strike	Remarks	
Contractor Claude Fenton Plant Hire	Plant Used JCB 3CX				Approved By PS
				Scale 1:50	

Samples and Results			Depth, (Thickness)	Level	Stratum Description	Legend
Results	Type	Depth				
	ES	0.10	(0.10)		MADE GROUND: Firm dark brown gravelly sandy SILT with abundant rootlets. Gravel is fine to coarse of plastic and brick.	
	ES	0.35	(0.60)		MADE GROUND: Firm light brown very gravelly sandy silty CLAY. Gravel is angular to subangular fine to coarse of flint and anthropogenic material: brick, clinker, plastic, metal and concrete.	
	ES	0.70	0.70 (0.30)		MADE GROUND: Firm brown slightly gravelly sandy CLAY with low cobble content of concrete and brick. Gravel is angular to subrounded fine to coarse flint, brick and concrete.	
	ES	1.00	1.00		MADE GROUND: Soft to firm dark grey sandy gravelly silty CLAY with organic content and fossilised rootlets within. Gravel is fine to coarse of plastic, glass and brick.	
			(0.80)			
			1.80		End of Trial Pit at 1.80m	
			2			
			3			
			4			

Remarks

Pit Stability:	STABLE
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Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.



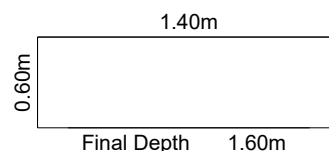
Project Name Smallmead, Reading	Project No. 6683	Date 07/07/2020 to 07/07/2020	Hole Type TP
Client Hampshire City Council	Co-ords E: 470684.00 N: 170756.00 L:	Water Strike Details Depth Strike Remarks	Logged By AS
Contractor Claude Fenton Plant Hire	Plant Used JCB 3CX		Approved By PS
			Scale 1:50

Samples and Results			Depth, (Thickness)	Level	Stratum Description	Legend
Results	Type	Depth				
	ES	0.10	(0.35)		MADE GROUND: Firm dark brown gravelly sandy SILT with abundant rootlets. Gravel is fine to coarse of flint and minor brick.	
	ES	0.35	0.35		MADE GROUND: Firm orange brown slightly sandy to sandy very gravelly CLAY with small pockets of firm to stiff mottled multicoloured (brown, grey, green and pink) silty CLAY. Gravel is angular to rounded fine to coarse of flint and rare pottery.	
	ES	0.70	(0.65)		0.70 to 1.00m - Large pockets/inclusions of stiff mottled multicoloured slightly sandy gravelly CLAY	
	ES	1.00	1	1.00	Soft dark grey slightly sandy very silty CLAY with organic patches and rootlets. Some minor red staining along surfaces. Organic inclusions and odours. (ALLUVIUM)	
			(0.50)			
			1.50		Soft brown mottled blue and yellow sandy silty CLAY with dark organic inclusions. (ALLUVIUM)	
			(0.10)			
			1.60		End of Trial Pit at 1.60m	
				2		
				3		
				4		

Remarks

Pit Stability: STABLE

Notes: For all symbols and abbreviations please see key sheet. All depths and measurements in metres. Stratum thicknesses given in brackets.



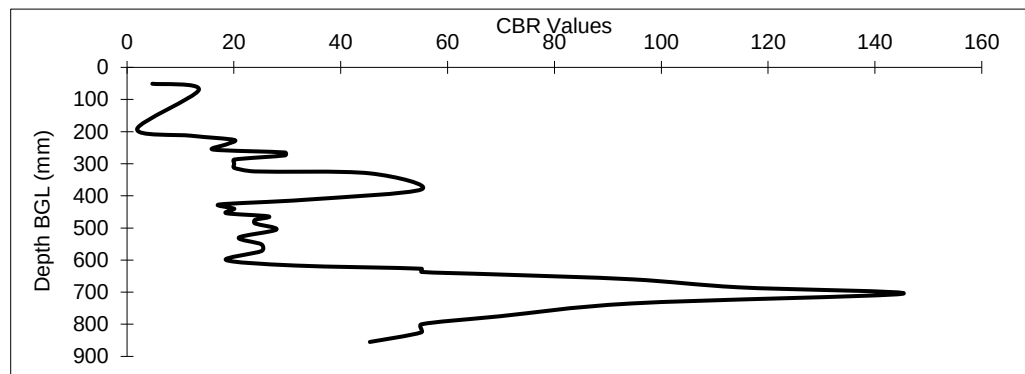
Annex B: In-situ Test Results

In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Project Name	Smallmead Reading	Date	14/07/2020	Soil	
Project No.	6683	Location/ Test No.	BH1	Description	

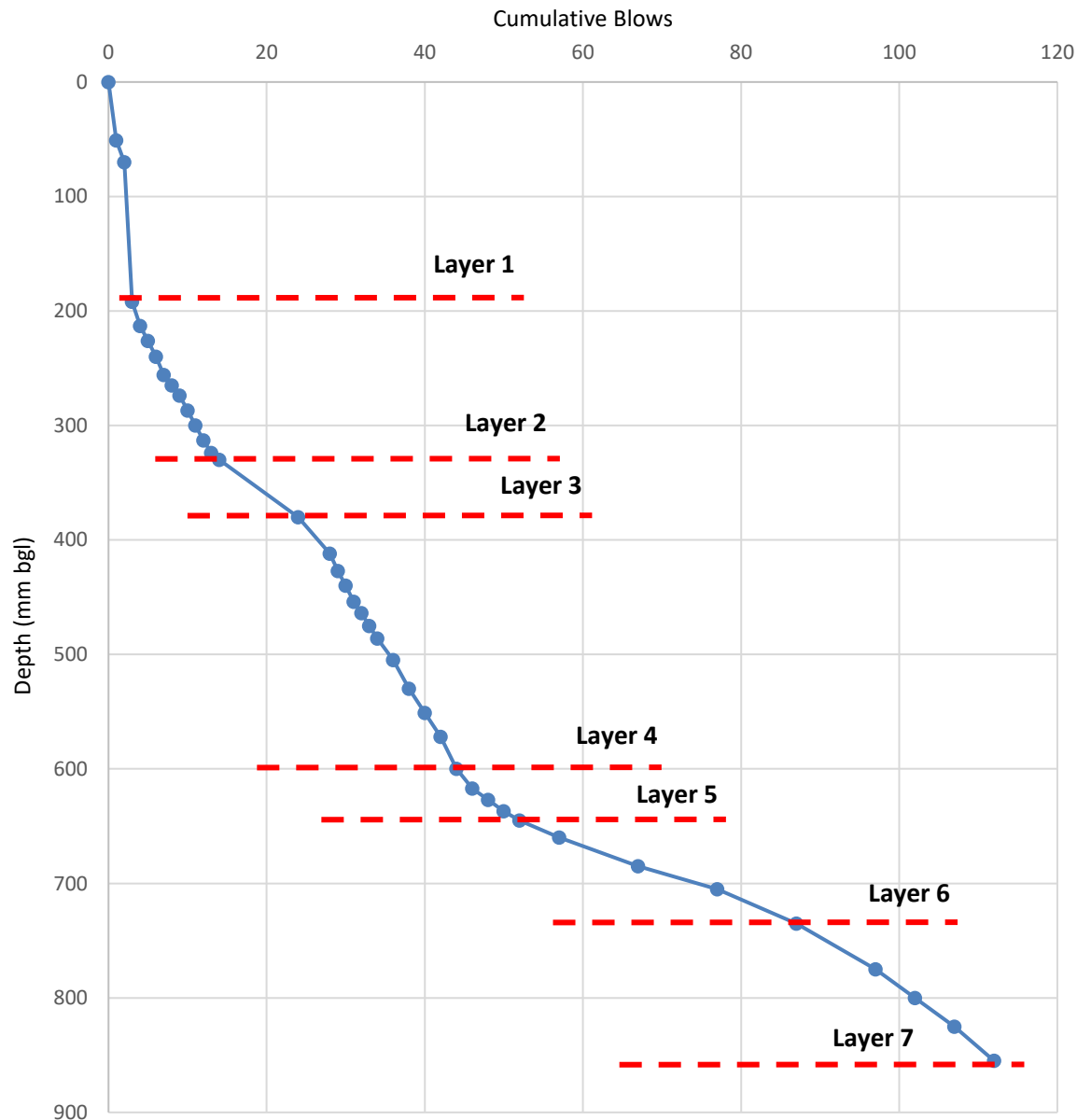
Depth of Test below ground level (mm): 0														
CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)
4.7	0		0	95	20.1	440	13.0	1	535	69.8	775	4.0	10	870
13.4	51	51.0	1	146	18.6	454	14.0	1	549	55.1	800	5.0	5	895
1.9	70	19.0	1	165	26.5	464	10.0	1	559	55.1	825	5.0	5	920
12.1	192	122.0	1	287	23.9	475	11.0	1	570	45.4	855	6.0	5	950
20.1	213	21.0	1	308	23.9	486	11.0	1	581					
18.6	226	13.0	1	321	28.0	505	9.5	2	600					
16.1	240	14.0	1	335	20.9	530	12.5	2	625					
29.6	256	16.0	1	351	25.2	551	10.5	2	646					
29.6	265	9.0	1	360	25.2	572	10.5	2	667					
20.1	274	9.0	1	369	18.6	600	14.0	2	695					
20.1	287	13.0	1	382	31.4	617	8.5	2	712					
20.1	300	13.0	1	395	55.1	627	5.0	2	722					
23.9	313	13.0	1	408	55.1	637	5.0	2	732					
45.4	324	11.0	1	419	69.8	645	4.0	2	740					
55.1	330	6.0	1	425	94.6	660	3.0	5	755					
33.5	380	5.0	10	475	114.7	685	2.5	10	780					
17.3	412	8.0	4	507	145.1	705	2.0	10	800					
	427	15.0	1	522	94.6	735	3.0	10	830					



In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Blows vs Depth



Layer Depth (mm bgl)	CBR Value (%)
Layer 1 Base: 192	3.72
Layer 2 Base: 330	20.84
Layer 3 Base: 380	55.10
Layer 4 Base: 600	23.95
Layer 5 Base: 645	48.65
Layer 6 Base: 735	111.29
Layer 7 Base: 855	57.53

CBR value calculated from layers identified in cumulative blows per depth graph in accordance with CS229

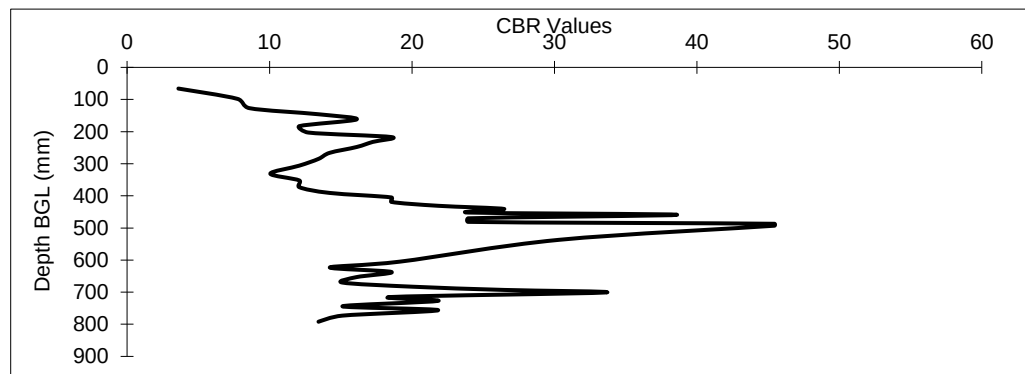


In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Project Name	Smallmead Reading	Date	14/07/2020	Soil	
Project No.	6683	Location/ Test No.	BH2	Description	

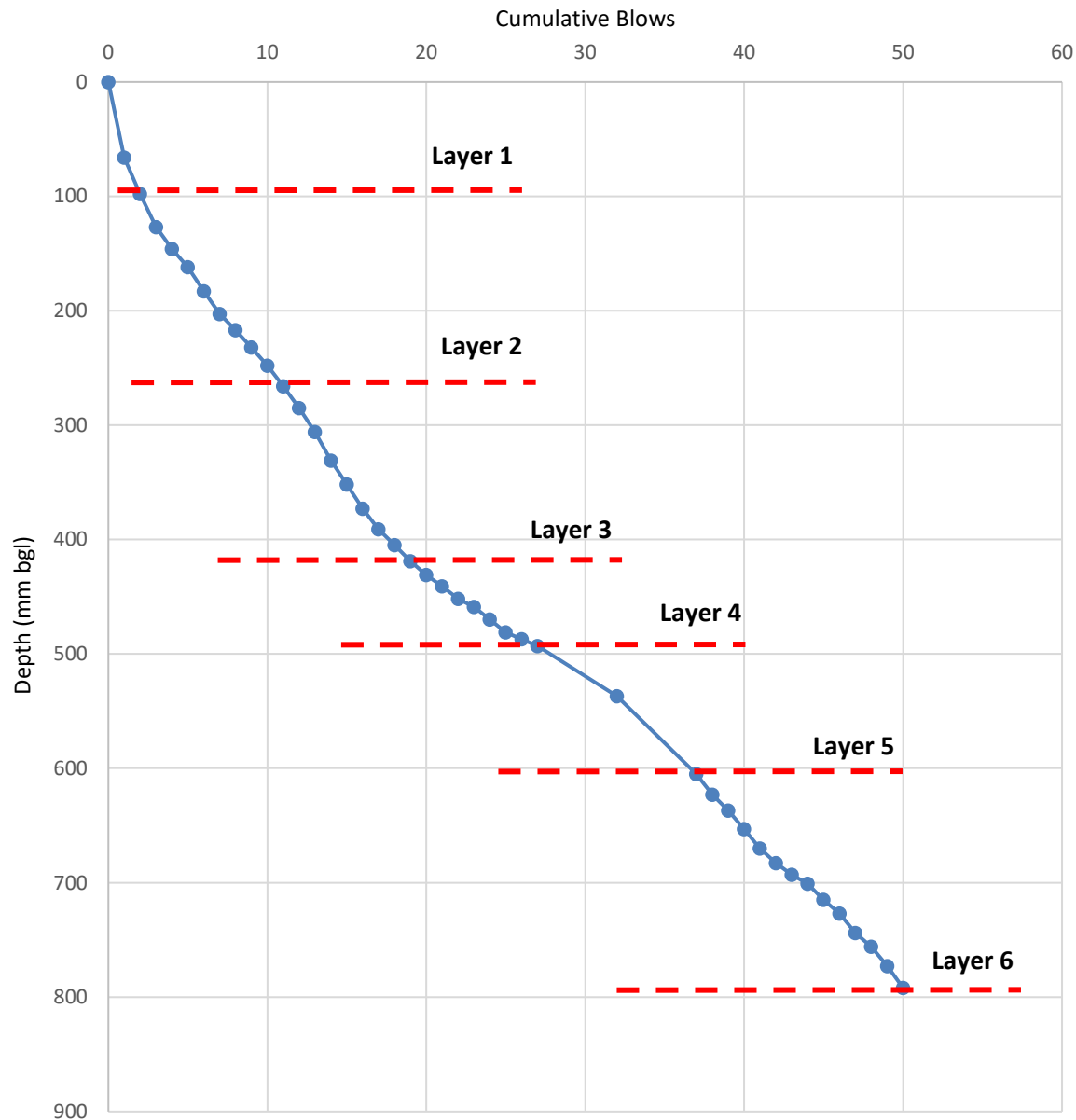
Depth of Test below ground level (mm): 0														
CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)
3.6	0		0	159	18.6	405	14.0	1	564	33.5	701	8.0	1	860
7.7	66	66.0	1	225	18.6	419	14.0	1	578	18.6	715	14.0	1	874
8.6	98	32.0	1	257	21.8	431	12.0	1	590	21.8	727	12.0	1	886
13.4	127	29.0	1	286	26.5	441	10.0	1	600	15.1	744	17.0	1	903
16.1	146	19.0	1	305	23.9	452	11.0	1	611	21.8	756	12.0	1	915
12.1	162	16.0	1	321	38.6	459	7.0	1	618	15.1	773	17.0	1	932
12.7	183	21.0	1	342	23.9	470	11.0	1	629	13.4	792	19.0	1	951
12.6	203	20.0	1	362	23.9	481	11.0	1	640					
18.6	217	14.0	1	376	45.4	487	6.0	1	646					
17.3	232	15.0	1	391	45.4	493	6.0	1	652					
16.1	248	16.0	1	407	30.3	537	8.8	5	696					
14.2	266	18.0	1	425	19.1	605	13.6	5	764					
13.4	285	19.0	1	444	14.2	623	18.0	1	782					
12.1	306	21.0	1	465	18.6	637	14.0	1	796					
10.1	331	25.0	1	490	16.1	653	16.0	1	812					
12.1	352	21.0	1	511	15.1	670	17.0	1	829					
12.1	373	21.0	1	532	20.1	683	13.0	1	842					
14.2	391	18.0	1	550	26.5	693	10.0	1	852					



In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Blows vs Depth



Layer Depth (mm bgl)	CBR Value (%)
Layer 1 Base: 98	4.94
Layer 2 Base: 266	13.69
Layer 3 Base: 419	13.35
Layer 4 Base: 493	28.76
Layer 5 Base: 605	23.50
Layer 6 Base: 792	18.03
Layer 7 Base:	

CBR value calculated from layers identified in cumulative blows per depth graph in accordance with CS229



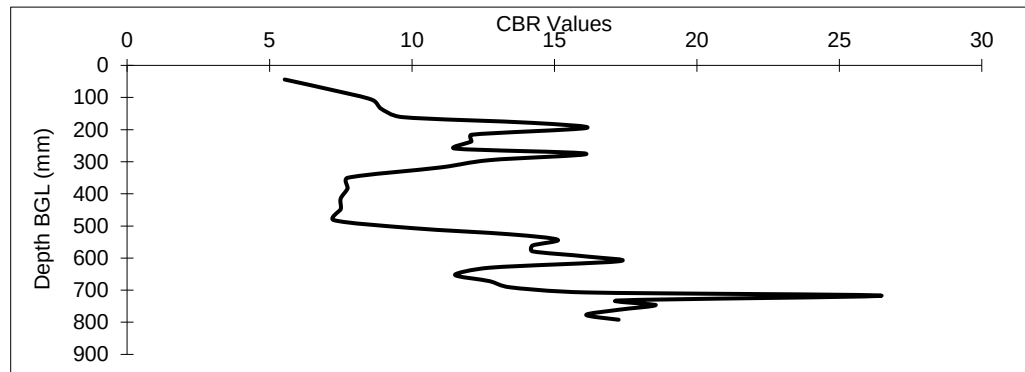
In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Project Name	Smallmead Reading	Date	14/07/2020	Soil	
Project No.	6683	Location/ Test No.	BH3	Description	

Depth of Test below ground level (mm): 0

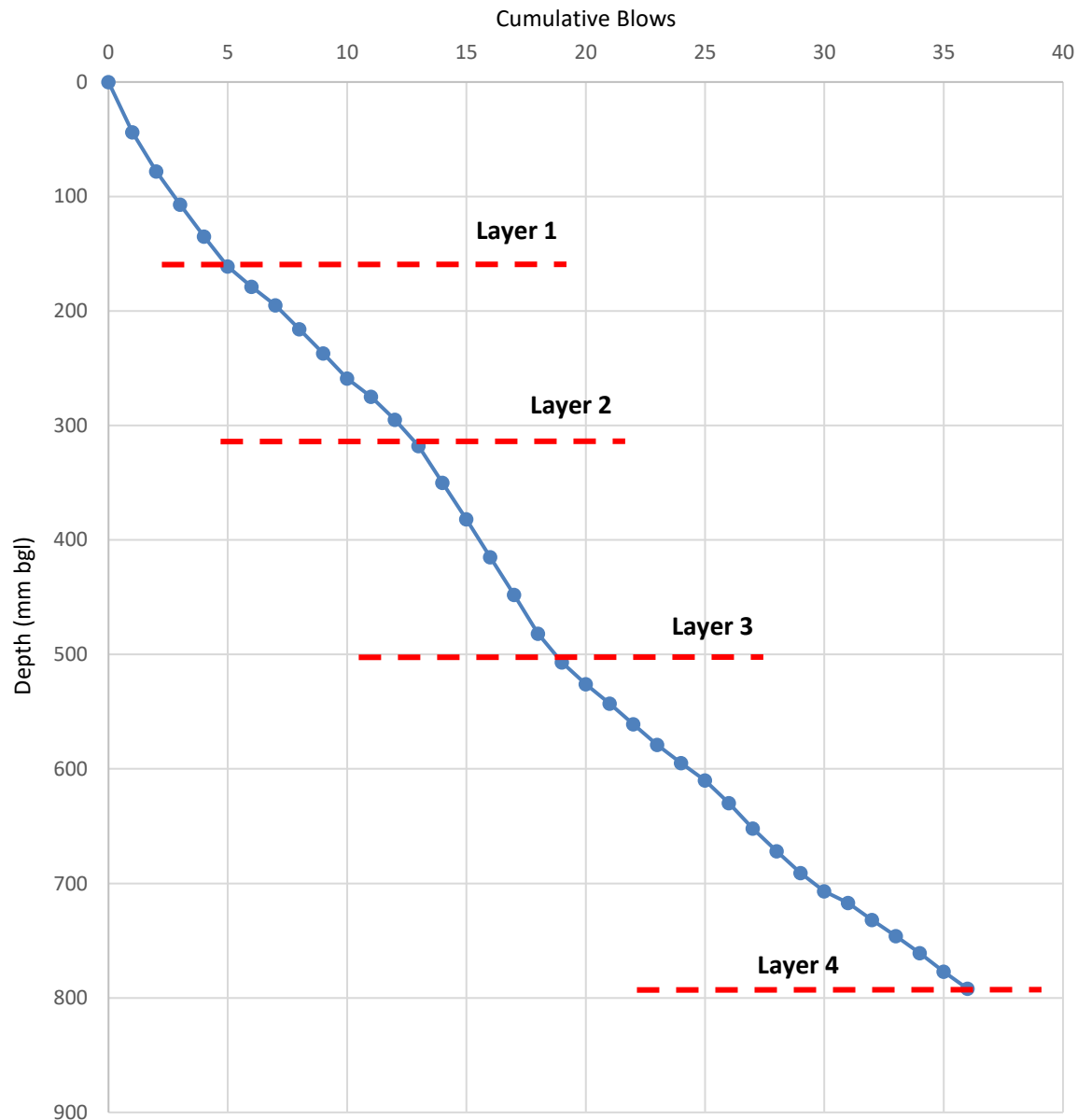
CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)	CBR Value %	Depth Below Ground Level (mm)	mm per blow	Blows	Reading on Scale (mm)
5.5	0		0	160	7.3	482	34.0	1	642	17.3	792	15.0	1	952
7.3	44	44.0	1	204	10.1	507	25.0	1	667					
8.6	78	34.0	1	238	13.4	526	19.0	1	686					
8.9	107	29.0	1	267	15.1	543	17.0	1	703					
9.6	135	28.0	1	295	14.2	561	18.0	1	721					
14.2	161	26.0	1	321	14.2	579	18.0	1	739					
16.1	179	18.0	1	339	16.1	595	16.0	1	755					
12.1	195	16.0	1	355	17.3	610	15.0	1	770					
12.1	216	21.0	1	376	12.7	630	20.0	1	790					
11.5	237	21.0	1	397	11.5	652	22.0	1	812					
16.1	259	22.0	1	419	12.7	672	20.0	1	832					
12.7	275	16.0	1	435	13.4	691	19.0	1	851					
11.0	295	20.0	1	455	16.1	707	16.0	1	867					
7.7	318	23.0	1	478	26.5	717	10.0	1	877					
7.7	350	32.0	1	510	17.3	732	15.0	1	892					
7.5	382	32.0	1	542	18.6	746	14.0	1	906					
7.5	415	33.0	1	575	17.3	761	15.0	1	921					
7.5	448	33.0	1	608	16.1	777	16.0	1	937					



In-situ CBR by TRL DCP

TRRL Road Transport, Note 8

Blows vs Depth



Layer Depth (mm bgl)	CBR Value (%)
Layer 1 Base: 161	7.69
Layer 2 Base: 318	12.99
Layer 3 Base: 507	7.88
Layer 4 Base: 792	15.34
Layer 5 Base:	
Layer 6 Base:	
Layer 7 Base:	

CBR value calculated from layers identified in cumulative blows per depth graph in accordance with CS229



Annex C: Chemical Test Results



Amended Report

Report No.:	20-19055-2		
Initial Date of Issue:	29-Jul-2020	Date of Re-Issue:	06-Aug-2020
Client	Terra Firma		
Client Address:	The Slate Barn Lower Lowley Dunsford Devon EX6 7BP		
Contact(s):	Info		
Project	6683 Smallmead Reading		
Quotation No.:	Q18-13119	Date Received:	23-Jul-2020
Order No.:		Date Instructed:	23-Jul-2020
No. of Samples:	14		
Turnaround (Wkdays):	12	Results Due:	07-Aug-2020
Date Approved:	06-Aug-2020		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

Project: 6683 Smallmead Reading

Client: Terra Firma	Chemtest Job No.:				20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055
Quotation No.: Q18-13119	Chemtest Sample ID.:				1036426	1036427	1036428	1036429	1036430	1036431	1036432	1036433	1036434
	Sample Location:				Mound1	Mound2	Mound3	BH1	BH1	BH1	BH1	BH1	BH2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	0.3	0.1	0.25	2.00	2.60	12.30	13.00	0.50
	Date Sampled:				17-Jul-2020	17-Jul-2020	17-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	15-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	bitumen	-	-	-	-	-	-		-
Asbestos Identification	U	2192	%	0.001	Chrysotile	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected
ACM Detection Stage	U	2192		N/A	Stereo Microscopy	-	-	-	-	-	-		-
Asbestos by Gravimetry	U	2192	%	0.001	0.009								
Total Asbestos	N	2192	%	0.001	0.009								
Moisture	N	2030	%	0.020	14	12	8.3	5.0	8.8	16	16	14	14
pH	U	2010		4.0	8.5	7.6	8.2	9.3	8.5	8.0	8.2		7.8
pH (2.5:1)	N	2010		4.0						7.9	8.2	7.9	
Magnesium (Water Soluble)	N	2120	g/l	0.010						< 0.010	< 0.010	0.012	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010						0.13	< 0.010	0.26	
Total Sulphur	U	2175	%	0.010	0.062	0.24	0.075	0.044	0.020	0.21	0.17	0.84	0.075
Chloride (Water Soluble)	U	2220	g/l	0.010						0.017	< 0.010	< 0.010	
Nitrate (Water Soluble)	N	2220	g/l	0.010						< 0.010	< 0.010	< 0.010	
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Thiocyanate	U	2300	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	12	4.6	4.9	2.4	4.7	550	17		37
Ammoniacal Nitrogen	U	2425	mg/kg	0.50	4.4	16	6.5	11	2.3	11	4.2		16
Sulphate (Total)	U	2430	%	0.010	0.18	0.90	0.17	0.14	0.051	1.1	0.72	2.2	0.26
Arsenic	U	2450	mg/kg	1.0	20	15	15	8.1	3.5	20	4.7		15
Cadmium	U	2450	mg/kg	0.10	0.60	1.3	0.63	0.19	< 0.10	< 0.10	< 0.10		0.34
Chromium	U	2450	mg/kg	1.0	23	42	31	15	9.7	21	2.2		26
Copper	U	2450	mg/kg	0.50	130	100	120	30	7.1	57	3.1		31
Mercury	U	2450	mg/kg	0.10	0.32	0.22	0.32	0.29	0.12	0.11	< 0.10		0.79
Nickel	U	2450	mg/kg	0.50	22	30	24	9.9	17	43	6.1		24
Lead	U	2450	mg/kg	0.50	160	180	120	51	9.3	21	1.9		130
Selenium	U	2450	mg/kg	0.20	0.30	0.83	0.42	0.31	0.29	0.46	< 0.20		1.5
Zinc	U	2450	mg/kg	0.50	200	680	200	54	24	42	6.5		96
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
Organic Matter	U	2625	%	0.40	4.3	15	4.1	2.6	0.57	0.98	< 0.40		9.7
Total Organic Carbon	U	2625	%	0.20	2.5					0.57			5.6
Total TPH >C6-C40	U	2670	mg/kg	10	< 10	38	2300	45	< 10	< 10	< 10		190
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0			< 1.0						< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0			< 1.0						< 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0			< 1.0						< 1.0
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0			< 1.0						< 1.0
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0			< 1.0						< 1.0

Results - Soil

Project: 6683 Smallmead Reading

Client: Terra Firma	Chemtest Job No.:				20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055	20-19055
Quotation No.: Q18-13119	Chemtest Sample ID.:				1036426	1036427	1036428	1036429	1036430	1036431	1036432	1036433	1036434
	Sample Location:				Mound1	Mound2	Mound3	BH1	BH1	BH1	BH1	BH1	BH2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	0.3	0.1	0.25	2.00	2.60	12.30	13.00	0.50
	Date Sampled:				17-Jul-2020	17-Jul-2020	17-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	14-Jul-2020	15-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD									
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0			22						< 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0			210						< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0						< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0			230						< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0			< 1.0						< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0			< 1.0						< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0			< 1.0						< 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0			< 1.0						< 1.0
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0			< 1.0						< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0			9.5						< 1.0
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0			300						< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0			< 1.0						< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0			310						< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0			540						< 10
Naphthalene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Fluorene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Phenanthrene	U	2700	mg/kg	0.10	2.3	1.6	1.4	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Anthracene	U	2700	mg/kg	0.10	0.48	0.29	0.25	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Fluoranthene	U	2700	mg/kg	0.10	3.4	2.4	2.4	< 0.10	< 0.10	< 0.10	< 0.10		1.2
Pyrene	U	2700	mg/kg	0.10	2.9	2.2	2.2	< 0.10	< 0.10	< 0.10	< 0.10		1.0
Benzo[a]anthracene	U	2700	mg/kg	0.10	1.6	< 0.10	1.7	< 0.10	< 0.10	< 0.10	< 0.10		0.84
Chrysene	U	2700	mg/kg	0.10	1.5	< 0.10	1.7	< 0.10	< 0.10	< 0.10	< 0.10		1.1
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	2.8	< 0.10	2.9	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	1.2	< 0.10	1.5	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10	2.1	< 0.10	2.1	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	1.4	< 0.10	2.1	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	0.76	< 0.10	1.5	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	1.4	< 0.10	2.5	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	22	6.5	22	< 2.0	< 2.0	< 2.0	< 2.0		4.1
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30		< 0.30

Results - Soil

Project: 6683 Smallmead Reading

Client: Terra Firma	Chemtest Job No.:				20-19055	20-19055	20-19055	20-19055	20-19055
Quotation No.: Q18-13119	Chemtest Sample ID.:				1036435	1036436	1036437	1036438	1036439
	Sample Location:				BH2	BH2	BH2	BH2	BH2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.00	1.50	2.50	4.50	13.50
	Date Sampled:				15-Jul-2020	15-Jul-2020	15-Jul-2020	15-Jul-2020	15-Jul-2020
	Asbestos Lab:					COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD					
ACM Type	U	2192		N/A		-	-		-
Asbestos Identification	U	2192	%	0.001		No Asbestos Detected	No Asbestos Detected		No Asbestos Detected
ACM Detection Stage	U	2192		N/A		-	-		-
Asbestos by Gravimetry	U	2192	%	0.001					
Total Asbestos	N	2192	%	0.001					
Moisture	N	2030	%	0.020	11	24	17	12	24
pH	U	2010		4.0		7.9	7.9		8.3
pH (2.5:1)	N	2010		4.0		8.1	8.1	8.3	
Magnesium (Water Soluble)	N	2120	g/l	0.010		< 0.010	< 0.010	< 0.010	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010		0.013	< 0.010	0.038	
Total Sulphur	U	2175	%	0.010		0.068	0.022	0.026	0.024
Chloride (Water Soluble)	U	2220	g/l	0.010		0.056	0.068	0.049	
Nitrate (Water Soluble)	N	2220	g/l	0.010		0.015	< 0.010	< 0.010	
Cyanide (Free)	U	2300	mg/kg	0.50		< 0.50	< 0.50		< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50		< 0.50	< 0.50		< 0.50
Thiocyanate	U	2300	mg/kg	5.0		< 5.0	< 5.0		< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50		< 0.50	1.8		1.9
Ammoniacal Nitrogen	U	2425	mg/kg	0.50		15	2.6		0.93
Sulphate (Total)	U	2430	%	0.010		0.23	0.090	0.11	0.074
Arsenic	U	2450	mg/kg	1.0		27	14		15
Cadmium	U	2450	mg/kg	0.10		0.44	0.12		0.29
Chromium	U	2450	mg/kg	1.0		27	19		1.4
Copper	U	2450	mg/kg	0.50		50	14		2.1
Mercury	U	2450	mg/kg	0.10		1.6	0.19		< 0.10
Nickel	U	2450	mg/kg	0.50		32	22		2.2
Lead	U	2450	mg/kg	0.50		120	23		4.8
Selenium	U	2450	mg/kg	0.20		1.0	0.77		< 0.20
Zinc	U	2450	mg/kg	0.50		150	37		12
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50	< 0.50		< 0.50
Organic Matter	U	2625	%	0.40	5.9	9.0	1.6		1.3
Total Organic Carbon	U	2625	%	0.20	3.4	5.2	0.90		
Total TPH >C6-C40	U	2670	mg/kg	10		56	< 10		< 10
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0					
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0					
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0					
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0					
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0					

Results - Soil

Project: 6683 Smallmead Reading

Client: Terra Firma	Chemtest Job No.:				20-19055	20-19055	20-19055	20-19055	20-19055
Quotation No.: Q18-13119	Chemtest Sample ID.:				1036435	1036436	1036437	1036438	1036439
	Sample Location:				BH2	BH2	BH2	BH2	BH2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.00	1.50	2.50	4.50	13.50
	Date Sampled:				15-Jul-2020	15-Jul-2020	15-Jul-2020	15-Jul-2020	15-Jul-2020
	Asbestos Lab:					COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0					
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0					
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0					
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0					
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0					
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0					
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0					
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0					
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0					
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0					
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0					
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0					
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0					
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0					
Naphthalene	U	2700	mg/kg	0.10		< 0.10	< 0.10		< 0.10
Acenaphthylene	U	2700	mg/kg	0.10		< 0.10	< 0.10		< 0.10
Acenaphthene	U	2700	mg/kg	0.10		< 0.10	< 0.10		< 0.10
Fluorene	U	2700	mg/kg	0.10		< 0.10	< 0.10		< 0.10
Phenanthrene	U	2700	mg/kg	0.10		0.66	< 0.10		< 0.10
Anthracene	U	2700	mg/kg	0.10		0.25	< 0.10		< 0.10
Fluoranthene	U	2700	mg/kg	0.10		1.8	< 0.10		< 0.10
Pyrene	U	2700	mg/kg	0.10		2.2	< 0.10		< 0.10
Benzo[a]anthracene	U	2700	mg/kg	0.10		0.63	< 0.10		< 0.10
Chrysene	U	2700	mg/kg	0.10		1.1	< 0.10		< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10		1.6	< 0.10		< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10		0.89	< 0.10		< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10		1.4	< 0.10		< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10		0.82	< 0.10		< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10		0.16	< 0.10		< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10		0.89	< 0.10		< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0		12	< 2.0		< 2.0
Total Phenols	U	2920	mg/kg	0.30		< 0.30	< 0.30		< 0.30

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easily liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44Aromatics: >C5–C7, >C7–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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



2183

Amended Report

Report No.:	20-17984-2		
Initial Date of Issue:	20-Jul-2020	Date of Re-Issue:	06-Aug-2020
Client	Terra Firma		
Client Address:	The Slate Barn Lower Lowley Dunsford Devon EX6 7BP		
Contact(s):	Info		
Project	6683 Smallmead, Reading		
Quotation No.:	Q18-13119	Date Received:	14-Jul-2020
Order No.:	6683	Date Instructed:	14-Jul-2020
No. of Samples:	13		
Turnaround (Wkdays):	19	Results Due:	07-Aug-2020
Date Approved:	06-Aug-2020		

Approved By:



Details: Glynn Harvey, Technical Manager

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031284	1031285	1031286	1031287	1031289	1031290	1031292	1031293	1031294
	Sample Location:				TP01	TP01	TP01	TP01	TP02	TP02	TP03	TP03	TP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.35	0.70	1.00	0.35	0.70	0.10	0.35	0.70
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-	-	-	-	-
Moisture	N	2030	%	0.020	6.5	5.8	6.4	16	11	9.6	15	6.5	11
E. coli (Subcon)	SN		cfu/g	N/A		< 10		< 10	< 10				
Faecal Strep (Subcon)	SN		cfu/g	N/A		<10		<10	<10				
Total Coliforms (Subcon)	SN		cfu/g	N/A		270		530	40				
pH	U	2010		4.0	9.3	8.7	8.6	8.0	8.2	8.1	8.0	8.3	8.2
pH (2.5:1)	N	2010		4.0									
Magnesium (Water Soluble)	N	2120	g/l	0.010									
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010									
Total Sulphur	U	2175	%	0.010	0.096	0.090	0.13	0.11	0.054	0.039	0.081	0.038	0.084
Chloride (Water Soluble)	U	2220	g/l	0.010									
Nitrate (Water Soluble)	N	2220	g/l	0.010									
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Thiocyanate	U	2300	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	3.5	5.0	3.6	7.2	2.4	1.7	48	7.0	11
Ammoniacal Nitrogen	U	2425	mg/kg	0.50	3.7	1.2	1.0	22	2.4	1.7	8.6	1.0	2.8
Sulphate (Total)	U	2430	%	0.010	0.29	0.14	0.27	0.24	0.14	0.11	0.23	0.073	0.12
Arsenic	U	2450	mg/kg	1.0	16	11	16	11	18	13	13	15	23
Cadmium	U	2450	mg/kg	0.10	0.33	0.19	0.23	0.21	0.22	0.18	0.27	0.21	0.42
Chromium	U	2450	mg/kg	1.0	21	14	17	18	18	17	24	16	18
Copper	U	2450	mg/kg	0.50	52	73	31	21	17	17	48	27	59
Mercury	U	2450	mg/kg	0.10	0.19	0.20	0.16	0.21	0.26	0.25	0.15	0.20	0.24
Nickel	U	2450	mg/kg	0.50	18	15	19	20	22	21	19	15	20
Lead	U	2450	mg/kg	0.50	72	49	55	44	36	35	70	58	64
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	0.25	0.96	1.3	0.89	0.26	< 0.20	0.22
Zinc	U	2450	mg/kg	0.50	110	64	87	49	51	74	100	57	71
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40	2.9	2.1	1.6	2.2	3.5	2.2	6.6	1.3	3.3
Florisil Cleanup	N		-	N/A		Done			Done			Done	
Total TPH >C6-C40	U	2670	mg/kg	10	100		100	< 10		< 10	81		< 10
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0			< 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0			< 1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0			< 1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0			< 1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0			< 1.0			< 1.0	

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:					20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:					1031284	1031285	1031286	1031287	1031289	1031290	1031292	1031293
	Sample Location:					TP01	TP01	TP01	TP01	TP02	TP02	TP03	TP03
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.10	0.35	0.70	1.00	0.35	0.70	0.10	0.35
	Date Sampled:					07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:					COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD									
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	60	< 1.0				< 1.0			< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	60	< 5.0				< 5.0			< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	3.3				< 1.0			< 1.0
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	120	280				< 1.0			< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0				< 1.0			< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	120	280				< 5.0			< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	180	280				< 10			< 10
Naphthalene	U	2700	mg/kg	0.10	< 0.10	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.17	< 0.10	0.11
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	0.26	0.19	< 0.10	< 0.10	< 0.10	0.23	< 0.10	0.21
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	1.8	0.74	< 0.10	< 0.10	< 0.10	0.67	0.21	0.22
Fluorene	U	2700	mg/kg	0.10	< 0.10	1.7	0.94	< 0.10	< 0.10	< 0.10	1.0	0.27	0.36
Phenanthrene	U	2700	mg/kg	0.10	0.25	13	9.4	0.97	0.35	< 0.10	11	3.4	3.4
Anthracene	U	2700	mg/kg	0.10	0.10	3.4	2.7	0.30	0.13	< 0.10	4.0	0.82	1.4
Fluoranthene	U	2700	mg/kg	0.10	0.76	18	11	1.7	0.60	0.37	13	6.3	7.2
Pyrene	U	2700	mg/kg	0.10	0.79	14	10	1.5	0.59	0.44	12	5.6	6.7
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10	8.2	5.5	1.0	< 0.10	< 0.10	5.8	2.9	3.5
Chrysene	U	2700	mg/kg	0.10	< 0.10	8.7	5.4	< 0.10	< 0.10	< 0.10	4.7	3.0	3.2
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10	8.8	5.6	0.81	< 0.10	< 0.10	4.1	3.4	4.4
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10	4.0	2.9	0.56	< 0.10	< 0.10	2.8	1.7	1.8
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10	7.3	5.0	0.77	< 0.10	< 0.10	4.9	3.0	3.3
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10	5.1	3.4	0.39	< 0.10	< 0.10	3.0	2.3	2.1
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10	1.8	1.1	< 0.10	< 0.10	< 0.10	0.99	0.91	0.62
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10	4.4	3.3	0.49	< 0.10	< 0.10	3.2	1.8	2.0
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0	100	67	8.5	< 2.0	< 2.0	72	36	41
Benzene	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
Toluene	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
Ethylbenzene	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
m & p-Xylene	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
o-Xylene	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0		< 1.0			< 1.0			< 1.0	
Demeton-O	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Phorate	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031284	1031285	1031286	1031287	1031289	1031290	1031292	1031293	1031294
	Sample Location:				TP01	TP01	TP01	TP01	TP02	TP02	TP03	TP03	TP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.35	0.70	1.00	0.35	0.70	0.10	0.35	0.70
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD									
Demeton-S	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Disulfoton	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Fenthion	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Trichloronate	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Prothiofos	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Fensulphothion	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Sulprofos	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Azinphos-Methyl	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Coumaphos	N	2820	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Atraton	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Prometon	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Simazine	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Atrazine	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Propazine	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Terbuthylazine	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Secbumeton	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Simetryn	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Ametryn	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Prometryn	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Terbutryn	N	2830	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Alpha-HCH	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Beta-HCH	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Delta-HCH	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Heptachlor	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Aldrin	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Heptachlor Epoxide	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Gamma-Chlordane	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Alpha-Chlordane	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Endosulfan I	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
4,4-DDE	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Dieldrin	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Endrin	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
4,4-DDD	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Endosulfan II	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Endrin Aldehyde	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
4,4-DDT	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Endosulfan Sulphate	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				
Methoxychlor	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20				

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031284	1031285	1031286	1031287	1031289	1031290	1031292	1031293
	Sample Location:				TP01	TP01	TP01	TP01	TP02	TP02	TP03	TP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.35	0.70	1.00	0.35	0.70	0.10	0.35
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD								
Endrin Ketone	N	2840	mg/kg	0.20		< 0.20		< 0.20	< 0.20			
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Salmonella (Subcon)	SN		in 25g	N/A		Not Detected		Not Detected	Not Detected			

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031295	1031297	1031298	1031299
	Sample Location:				TP03	TP04	TP04	TP04
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.00	0.35	0.70	1.00
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD				
ACM Type	U	2192		N/A	-	-		-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-		-
Moisture	N	2030	%	0.020	13	8.5	12	43
E. coli (Subcon)	SN		cfu/g	N/A				< 10
Faecal Strep (Subcon)	SN		cfu/g	N/A				<10
Total Coliforms (Subcon)	SN		cfu/g	N/A				20
pH	U	2010		4.0	8.1	8.2		8.1
pH (2.5:1)	N	2010		4.0			8.1	8.0
Magnesium (Water Soluble)	N	2120	g/l	0.010			< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010			0.088	0.069
Total Sulphur	U	2175	%	0.010	0.065	0.060	0.020	0.081
Chloride (Water Soluble)	U	2220	g/l	0.010			0.058	0.090
Nitrate (Water Soluble)	N	2220	g/l	0.010			< 0.010	0.021
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50		< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50		0.60
Thiocyanate	U	2300	mg/kg	5.0	< 5.0	< 5.0		< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	13	1.5		16
Ammoniacal Nitrogen	U	2425	mg/kg	0.50	19	2.6		6.9
Sulphate (Total)	U	2430	%	0.010	0.15	0.16	0.065	0.47
Arsenic	U	2450	mg/kg	1.0	14	16		6.6
Cadmium	U	2450	mg/kg	0.10	0.24	0.17		< 0.10
Chromium	U	2450	mg/kg	1.0	17	16		23
Copper	U	2450	mg/kg	0.50	46	15		18
Mercury	U	2450	mg/kg	0.10	0.27	0.18		< 0.10
Nickel	U	2450	mg/kg	0.50	18	20		40
Lead	U	2450	mg/kg	0.50	55	27		16
Selenium	U	2450	mg/kg	0.20	0.49	1.1		0.90
Zinc	U	2450	mg/kg	0.50	65	47		51
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50		< 0.50
Organic Matter	U	2625	%	0.40	1.6	3.5		13
Florisil Cleanup	N		-	N/A				
Total TPH >C6-C40	U	2670	mg/kg	10	< 10	< 10		< 10
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0				
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0				
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0				
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0				
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0				

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031295	1031297	1031298	1031299
	Sample Location:				TP03	TP04	TP04	TP04
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.00	0.35	0.70	1.00
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD				
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0				
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0				
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0				
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0				
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0				
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0				
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0				
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0				
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0				
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0				
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0				
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0				
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0				
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0				
Naphthalene	U	2700	mg/kg	0.10	0.14	< 0.10		< 0.10
Acenaphthylene	U	2700	mg/kg	0.10	0.21	< 0.10		< 0.10
Acenaphthene	U	2700	mg/kg	0.10	0.62	< 0.10		< 0.10
Fluorene	U	2700	mg/kg	0.10	0.73	< 0.10		< 0.10
Phenanthrene	U	2700	mg/kg	0.10	5.1	< 0.10		< 0.10
Anthracene	U	2700	mg/kg	0.10	2.0	< 0.10		< 0.10
Fluoranthene	U	2700	mg/kg	0.10	9.5	0.60		< 0.10
Pyrene	U	2700	mg/kg	0.10	8.5	0.61		< 0.10
Benzo[a]anthracene	U	2700	mg/kg	0.10	4.5	0.34		< 0.10
Chrysene	U	2700	mg/kg	0.10	4.1	0.37		< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	4.0	0.47		< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	2.1	0.21		< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10	3.7	0.44		< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	2.0	0.26		< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	0.70	0.18		< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	2.0	0.35		< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	50	3.8		< 2.0
Benzene	U	2760	µg/kg	1.0				
Toluene	U	2760	µg/kg	1.0				
Ethylbenzene	U	2760	µg/kg	1.0				
m & p-Xylene	U	2760	µg/kg	1.0				
o-Xylene	U	2760	µg/kg	1.0				
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0				
Demeton-O	N	2820	mg/kg	0.20				
Phorate	N	2820	mg/kg	0.20				

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:				20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:				1031295	1031297	1031298	1031299
	Sample Location:				TP03	TP04	TP04	TP04
	Sample Type:				SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.00	0.35	0.70	1.00
	Date Sampled:				07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:				COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD				
Demeton-S	N	2820	mg/kg	0.20				
Disulfoton	N	2820	mg/kg	0.20				
Fenthion	N	2820	mg/kg	0.20				
Trichloronate	N	2820	mg/kg	0.20				
Prothiofos	N	2820	mg/kg	0.20				
Fensulphothion	N	2820	mg/kg	0.20				
Sulprofos	N	2820	mg/kg	0.20				
Azinphos-Methyl	N	2820	mg/kg	0.20				
Coumaphos	N	2820	mg/kg	0.20				
Atraton	N	2830	mg/kg	0.20				
Prometon	N	2830	mg/kg	0.20				
Simazine	N	2830	mg/kg	0.20				
Atrazine	N	2830	mg/kg	0.20				
Propazine	N	2830	mg/kg	0.20				
Terbuthylazine	N	2830	mg/kg	0.20				
Secbumeton	N	2830	mg/kg	0.20				
Simetryn	N	2830	mg/kg	0.20				
Ametryn	N	2830	mg/kg	0.20				
Prometryn	N	2830	mg/kg	0.20				
Terbutryn	N	2830	mg/kg	0.20				
Alpha-HCH	N	2840	mg/kg	0.20				
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20				
Beta-HCH	N	2840	mg/kg	0.20				
Delta-HCH	N	2840	mg/kg	0.20				
Heptachlor	N	2840	mg/kg	0.20				
Aldrin	N	2840	mg/kg	0.20				
Heptachlor Epoxide	N	2840	mg/kg	0.20				
Gamma-Chlordane	N	2840	mg/kg	0.20				
Alpha-Chlordane	N	2840	mg/kg	0.20				
Endosulfan I	N	2840	mg/kg	0.20				
4,4-DDE	N	2840	mg/kg	0.20				
Dieldrin	N	2840	mg/kg	0.20				
Endrin	N	2840	mg/kg	0.20				
4,4-DDD	N	2840	mg/kg	0.20				
Endosulfan II	N	2840	mg/kg	0.20				
Endrin Aldehyde	N	2840	mg/kg	0.20				
4,4-DDT	N	2840	mg/kg	0.20				
Endosulfan Sulphate	N	2840	mg/kg	0.20				
Methoxychlor	N	2840	mg/kg	0.20				

Results - Soil

Project: 6683 Smallmead, Reading

Client: Terra Firma	Chemtest Job No.:					20-17984	20-17984	20-17984	20-17984
Quotation No.: Q18-13119	Chemtest Sample ID.:					1031295	1031297	1031298	1031299
	Sample Location:					TP03	TP04	TP04	TP04
	Sample Type:					SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					1.00	0.35	0.70	1.00
	Date Sampled:					07-Jul-2020	07-Jul-2020	07-Jul-2020	07-Jul-2020
	Asbestos Lab:					COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Endrin Ketone	N	2840	mg/kg	0.20					
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30			< 0.30
Salmonella (Subcon)	SN		in 25g	N/A					Not Detected

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easily liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44 Aromatics: >C5–C7, >C7–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

Test Methods

SOP	Title	Parameters included	Method summary
2820	Organophosphorus (O-P) Pesticides in Soils by GC-MS	Organophosphorus pesticide representative suite including Parathion, Malathion etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2830	Organonitrogen (O-N) Pesticides in Soils by GC-MS	Organonitrogen pesticide representative suite including Triazines etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2840	Organochlorine (O-Cl) Pesticides in Soils by GC-MS	Organochlorine pesticide representative suite including DDT and its metabolites, 'drins' and HCH etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

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

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

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

Charges may apply to extended sample storage

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

Waste Classification Report



UUA9Z-9QDTC-F4ZW9

Job name

6683 (BH's)

Description/Comments

Project

6683

Site

Smallmead, Reading

Related Documents

#	Name	Description
1	HWOL_20-19055-20200806 162222.hwol	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name: Steve Hill	Company: Terra Firma South	HazWasteOnline™ Training Record:	
Date: 01 Oct 2020 09:59 GMT	The Slate Barn	Course	Date
Telephone: 01647 252414	Lower Lowley	Hazardous Waste Classification	05 Dec 2018
	Dunsford	Advanced Hazardous Waste Classification	-
	EX6 7BP		

Report

Created by: Steve Hill
Created date: 01 Oct 2020 09:59 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	Mound1-17/07/2020-0.5	0.5	Non Hazardous		3
2	Mound2-17/07/2020-0.3	0.3	Non Hazardous		5
3	Mound3-17/07/2020-0.1	0.1	Hazardous	HP 7, HP 11	8
4	BH1-14/07/2020-0.25	0.25	Non Hazardous		11
5	BH1-14/07/2020-2.00	2.00	Non Hazardous		14
6	BH1-14/07/2020-2.60	2.60	Non Hazardous		16
7	BH1-14/07/2020-12.30	12.30	Non Hazardous		18
8	BH2-15/07/2020-0.50	0.50	Non Hazardous		20
9	BH2-15/07/2020-1.50	1.50	Non Hazardous		23
10	BH2-15/07/2020-2.50	2.50	Non Hazardous		26
11	BH2-15/07/2020-13.50	13.50	Non Hazardous		28

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	30
Appendix B: Rationale for selection of metal species	31
Appendix C: Version	32

Classification of sample: Mound1-17/07/2020-0.5

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

Sample details

Sample Name:	LoW Code:	
Mound1-17/07/2020-0.5	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m		
Moisture content:		
14%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				20	mg/kg	1.32	22.71	mg/kg	0.00227 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.589	mg/kg	0.0000589 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				23	mg/kg	1.462	28.91	mg/kg	0.00289 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									
5		copper { dicopper oxide; copper (I) oxide }				130	mg/kg	1.126	125.874	mg/kg	0.0126 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	160	mg/kg	1.56	214.631	mg/kg	0.0138 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				0.32	mg/kg	1.353	0.372	mg/kg	0.0000372 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				22	mg/kg	2.976	56.311	mg/kg	0.00563 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.3	mg/kg	2.554	0.659	mg/kg	0.0000659 %	✓	
		034-002-00-8											
10		zinc { zinc oxide }				200	mg/kg	1.245	214.091	mg/kg	0.0214 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
11		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
12		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8.5	pH		8.5	pH	8.5 pH		
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
17	• fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
18	• phenanthrene				2.3	mg/kg		1.978	mg/kg	0.000198 %	✓	
		201-581-5	85-01-8									
19	• anthracene				0.48	mg/kg		0.413	mg/kg	0.0000413 %	✓	
		204-371-1	120-12-7									
20	• fluoranthene				3.4	mg/kg		2.924	mg/kg	0.000292 %	✓	
		205-912-4	206-44-0									
21	• pyrene				2.9	mg/kg		2.494	mg/kg	0.000249 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				1.6	mg/kg		1.376	mg/kg	0.000138 %	✓	
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				1.5	mg/kg		1.29	mg/kg	0.000129 %	✓	
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				2.8	mg/kg		2.408	mg/kg	0.000241 %	✓	
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				1.2	mg/kg		1.032	mg/kg	0.000103 %	✓	
	601-036-00-5	205-916-6	207-08-9									
26	benzo[a]pyrene; benzo[def]chrysene				2.1	mg/kg		1.806	mg/kg	0.000181 %	✓	
	601-032-00-3	200-028-5	50-32-8									
27	• indeno[123-cd]pyrene				1.4	mg/kg		1.204	mg/kg	0.00012 %	✓	
		205-893-2	193-39-5									
28	dibenz[a,h]anthracene				0.76	mg/kg		0.654	mg/kg	0.0000654 %	✓	
	601-041-00-2	200-181-8	53-70-3									
29	• benzo[ghi]perylene				1.4	mg/kg		1.204	mg/kg	0.00012 %	✓	
		205-883-8	191-24-2									
30	ammonia, anhydrous				4.4	mg/kg		3.784	mg/kg	0.000378 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
Total:										0.0622 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00037%)

Classification of sample: Mound2-17/07/2020-0.3

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

Sample details

Sample Name:	LoW Code:	
Mound2-17/07/2020-0.3	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)
0.3 m		
Moisture content:		
12%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight 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	17.428 mg/kg	0.00174 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				1.3 mg/kg	1.142	1.307 mg/kg	0.000131 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42 mg/kg	1.462	54.019 mg/kg	0.0054 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				100 mg/kg	1.126	99.078 mg/kg	0.00991 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	180 mg/kg	1.56	247.075 mg/kg	0.0158 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				0.22 mg/kg	1.353	0.262 mg/kg	0.0000262 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				30 mg/kg	2.976	78.573 mg/kg	0.00786 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.83 mg/kg	2.554	1.865 mg/kg	0.000187 %	✓	
	034-002-00-8									
10	zinc { zinc oxide }				680 mg/kg	1.245	744.837 mg/kg	0.0745 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
11	TPH (C6 to C40) petroleum group				38 mg/kg		33.44 mg/kg	0.00334 %	✓	
			TPH							
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH		PH		7.6	pH		7.6	pH	7.6 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	1.6	mg/kg		1.408	mg/kg	0.000141 %	✓	
19	• anthracene		204-371-1	120-12-7	0.29	mg/kg		0.255	mg/kg	0.0000255 %	✓	
20	• fluoranthene		205-912-4	206-44-0	2.4	mg/kg		2.112	mg/kg	0.000211 %	✓	
21	• pyrene		204-927-3	129-00-0	2.2	mg/kg		1.936	mg/kg	0.000194 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	16	mg/kg		14.08	mg/kg	0.00141 %	✓	
Total:										0.121 %		

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 Not Flammable >12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00334%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00141%)

Classification of sample: Mound3-17/07/2020-0.1

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	LoW Code:
Mound3-17/07/2020-0.1	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.1 m	Entry:
Moisture content:	17 05 03 * (Soil and stones containing hazardous substances)
8.3%	
(wet weight correction)	

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.211%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.211%)

Determinands

Moisture content: 8.3% Wet Weight 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	18.161 mg/kg	0.00182 %		✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.63 mg/kg	1.142	0.66 mg/kg	0.000066 %		✓	
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				31 mg/kg	1.462	41.548 mg/kg	0.00415 %		✓	
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				120 mg/kg	1.126	123.893 mg/kg	0.0124 %		✓	
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	120 mg/kg	1.56	171.642 mg/kg	0.011 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.32 mg/kg	1.353	0.397 mg/kg	0.0000397 %		✓	
	080-010-00-X	231-299-8	7487-94-7								

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
8	nickel { nickel chromate }				24	mg/kg	2.976	65.502	mg/kg	0.00655 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.42	mg/kg	2.554	0.983	mg/kg	0.0000983 %	✓	
	034-002-00-8											
10	zinc { zinc oxide }				200	mg/kg	1.245	228.281	mg/kg	0.0228 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	TPH (C6 to C40) petroleum group				2300	mg/kg		2109.1	mg/kg	0.211 %	✓	
			TPH									
12	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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											
13	pH				8.2	pH		8.2	pH	8.2 pH		
			PH									
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
17	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
18	phenanthrene				1.4	mg/kg		1.284	mg/kg	0.000128 %	✓	
		201-581-5	85-01-8									
19	anthracene				0.25	mg/kg		0.229	mg/kg	0.0000229 %	✓	
		204-371-1	120-12-7									
20	fluoranthene				2.4	mg/kg		2.201	mg/kg	0.00022 %	✓	
		205-912-4	206-44-0									
21	pyrene				2.2	mg/kg		2.017	mg/kg	0.000202 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				1.7	mg/kg		1.559	mg/kg	0.000156 %	✓	
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				1.7	mg/kg		1.559	mg/kg	0.000156 %	✓	
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				2.9	mg/kg		2.659	mg/kg	0.000266 %	✓	
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				1.5	mg/kg		1.376	mg/kg	0.000138 %	✓	
	601-036-00-5	205-916-6	207-08-9									
26	benzo[a]pyrene; benzo[def]chrysene				2.1	mg/kg		1.926	mg/kg	0.000193 %	✓	
	601-032-00-3	200-028-5	50-32-8									
27	indeno[123-cd]pyrene				2.1	mg/kg		1.926	mg/kg	0.000193 %	✓	
		205-893-2	193-39-5									
28	dibenz[a,h]anthracene				1.5	mg/kg		1.376	mg/kg	0.000138 %	✓	
	601-041-00-2	200-181-8	53-70-3									
29	benzo[ghi]perylene				2.5	mg/kg		2.293	mg/kg	0.000229 %	✓	
		205-883-8	191-24-2									
30	ammonia, anhydrous				6.5	mg/kg		5.961	mg/kg	0.000596 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
Total:										0.273 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	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 Not Flammable >12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.211%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00059%)

Classification of sample: BH1-14/07/2020-0.25

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

Sample details

Sample Name:	LoW Code:	
BH1-14/07/2020-0.25	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)
0.25 m		
Moisture content:		
5%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 5% Wet Weight 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 }				8.1 mg/kg	1.32	10.16 mg/kg	0.00102 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.19 mg/kg	1.142	0.206 mg/kg	0.0000206 %	✓		
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				15 mg/kg	1.462	20.827 mg/kg	0.00208 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				30 mg/kg	1.126	32.088 mg/kg	0.00321 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	51 mg/kg	1.56	75.573 mg/kg	0.00485 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.29 mg/kg	1.353	0.373 mg/kg	0.0000373 %	✓		
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				9.9 mg/kg	2.976	27.992 mg/kg	0.0028 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.31 mg/kg	2.554	0.752 mg/kg	0.0000752 %	✓		
	034-002-00-8										
10	zinc { zinc oxide }				54 mg/kg	1.245	63.854 mg/kg	0.00639 %	✓		
	030-013-00-7	215-222-5	1314-13-2								
11	TPH (C6 to C40) petroleum group		TPH		45 mg/kg		42.75 mg/kg	0.00428 %	✓		
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH		PH		9.3	pH		9.3	pH	9.3 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
19	• anthracene		204-371-1	120-12-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	• pyrene		204-927-3	129-00-0	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	11	mg/kg		10.45	mg/kg	0.00105 %	✓	
Total:										0.0261 %		

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 Not Flammable >12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00428%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00105%)

Classification of sample: BH1-14/07/2020-2.00

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

Sample details

Sample Name:	LoW Code:
BH1-14/07/2020-2.00	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
8.8%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.8% Wet Weight 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 }				3.5	mg/kg	1.32	4.214	mg/kg	0.000421 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.7	mg/kg	1.462	12.93	mg/kg	0.00129 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									
5		copper { dicopper oxide; copper (I) oxide }				7.1	mg/kg	1.126	7.29	mg/kg	0.000729 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	9.3	mg/kg	1.56	13.23	mg/kg	0.000848 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				0.12	mg/kg	1.353	0.148	mg/kg	0.0000148 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				17	mg/kg	2.976	46.144	mg/kg	0.00461 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.29	mg/kg	2.554	0.675	mg/kg	0.0000675 %	✓	
		034-002-00-8											
10		zinc { zinc oxide }				24	mg/kg	1.245	27.244	mg/kg	0.00272 %	✓	
		030-013-00-7	215-222-5	1314-13-2									
11		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
12		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
13	• pH		PH		8.5 pH		8.5 pH	8.5 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
21	• pyrene		204-927-3	129-00-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	2.3 mg/kg		2.098 mg/kg	0.00021 %	✓	
Total:								0.0123 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00021%)

Classification of sample: BH1-14/07/2020-2.60

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

Sample details

Sample Name:	LoW Code:
BH1-14/07/2020-2.60	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.60 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				20	mg/kg	1.32	22.181	mg/kg	0.00222 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21	mg/kg	1.462	25.782	mg/kg	0.00258 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
5	copper { dicopper oxide; copper (I) oxide }				57	mg/kg	1.126	53.908	mg/kg	0.00539 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	21	mg/kg	1.56	27.515	mg/kg	0.00176 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				0.11	mg/kg	1.353	0.125	mg/kg	0.0000125 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				43	mg/kg	2.976	107.503	mg/kg	0.0108 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.46	mg/kg	2.554	0.987	mg/kg	0.0000987 %	✓	
	034-002-00-8											
10	zinc { zinc oxide }				42	mg/kg	1.245	43.914	mg/kg	0.00439 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	TPH (C6 to C40) petroleum group		TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
12	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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
13	• pH		PH		8 pH		8	pH	8pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	• pyrene		204-927-3	129-00-0	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	11 mg/kg		9.24	mg/kg	0.000924 %	✓	
Total:									0.0295 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00092%)

Classification of sample: BH1-14/07/2020-12.30

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

Sample details

Sample Name:	LoW Code:
BH1-14/07/2020-12.30	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
12.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				4.7 mg/kg	1.32	5.213 mg/kg	0.000521 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				2.2 mg/kg	1.462	2.701 mg/kg	0.00027 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				3.1 mg/kg	1.126	2.932 mg/kg	0.000293 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	1.9 mg/kg	1.56	2.489 mg/kg	0.00016 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				6.1 mg/kg	2.976	15.25 mg/kg	0.00153 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.2 mg/kg	2.554	<0.511 mg/kg	<0.0000511 %			<LOD
	034-002-00-8										
10	zinc { zinc oxide }				6.5 mg/kg	1.245	6.796 mg/kg	0.00068 %	✓		
	030-013-00-7	215-222-5	1314-13-2								
11	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %			<LOD
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
13	• pH		PH		8.2 pH		8.2 pH	8.2 pH			
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	• pyrene		204-927-3	129-00-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	4.2 mg/kg		3.528 mg/kg	0.000353 %	✓		
Total:									0.00523 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00035%)

Classification of sample: BH2-15/07/2020-0.50

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

Sample details

Sample Name:	LoW Code:
BH2-15/07/2020-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14%	
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				15	mg/kg	1.32	17.032	mg/kg	0.0017 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.34	mg/kg	1.142	0.334	mg/kg	0.0000334 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				26	mg/kg	1.462	32.68	mg/kg	0.00327 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
5	copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	30.016	mg/kg	0.003 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	130	mg/kg	1.56	174.387	mg/kg	0.0112 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				0.79	mg/kg	1.353	0.92	mg/kg	0.000092 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				24	mg/kg	2.976	61.43	mg/kg	0.00614 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.5	mg/kg	2.554	3.294	mg/kg	0.000329 %	✓	
	034-002-00-8											
10	zinc { zinc oxide }				96	mg/kg	1.245	102.764	mg/kg	0.0103 %	✓	
	030-013-00-7	215-222-5	1314-13-2									
11	TPH (C6 to C40) petroleum group		TPH		190	mg/kg		163.4	mg/kg	0.0163 %	✓	
12	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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
13	• pH		PH		7.8 pH		7.8 pH	7.8 pH			
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	• fluoranthene		205-912-4	206-44-0	1.2 mg/kg		1.032 mg/kg	0.000103 %	✓		
21	• pyrene		204-927-3	129-00-0	1 mg/kg		0.86 mg/kg	0.000086 %	✓		
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.84 mg/kg		0.722 mg/kg	0.0000722 %	✓		
23	chrysene	601-048-00-0	205-923-4	218-01-9	1.1 mg/kg		0.946 mg/kg	0.0000946 %	✓		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	16 mg/kg		13.76 mg/kg	0.00138 %	✓		
Total:									0.0544 %		

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 Not Flammable >12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0163%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00138%)

Classification of sample: BH2-15/07/2020-1.50

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

Sample details

Sample Name:	LoW Code:	
BH2-15/07/2020-1.50	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)
1.50 m		
Moisture content:		
24%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 24% Wet Weight 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 }				27 mg/kg	1.32	27.093 mg/kg	0.00271 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				0.44 mg/kg	1.142	0.382 mg/kg	0.0000382 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27 mg/kg	1.462	29.991 mg/kg	0.003 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				50 mg/kg	1.126	42.784 mg/kg	0.00428 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	120 mg/kg	1.56	142.255 mg/kg	0.00912 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				1.6 mg/kg	1.353	1.646 mg/kg	0.000165 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				32 mg/kg	2.976	72.383 mg/kg	0.00724 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1 mg/kg	2.554	1.941 mg/kg	0.000194 %	✓	
	034-002-00-8									
10	zinc { zinc oxide }				150 mg/kg	1.245	141.897 mg/kg	0.0142 %	✓	
	030-013-00-7	215-222-5	1314-13-2							
11	TPH (C6 to C40) petroleum group		TPH		56 mg/kg		42.56 mg/kg	0.00426 %	✓	
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH		PH		7.9	pH		7.9	pH	7.9 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	0.66	mg/kg		0.502	mg/kg	0.0000502 %	✓	
19	• anthracene		204-371-1	120-12-7	0.25	mg/kg		0.19	mg/kg	0.000019 %	✓	
20	• fluoranthene		205-912-4	206-44-0	1.8	mg/kg		1.368	mg/kg	0.000137 %	✓	
21	• pyrene		204-927-3	129-00-0	2.2	mg/kg		1.672	mg/kg	0.000167 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.63	mg/kg		0.479	mg/kg	0.0000479 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	1.1	mg/kg		0.836	mg/kg	0.0000836 %	✓	
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.6	mg/kg		1.216	mg/kg	0.000122 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.89	mg/kg		0.676	mg/kg	0.0000676 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.4	mg/kg		1.064	mg/kg	0.000106 %	✓	
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	0.82	mg/kg		0.623	mg/kg	0.0000623 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.16	mg/kg		0.122	mg/kg	0.0000122 %	✓	
29	• benzo[ghi]perylene		205-883-8	191-24-2	0.89	mg/kg		0.676	mg/kg	0.0000676 %	✓	
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	15	mg/kg		11.4	mg/kg	0.00114 %	✓	
Total:										0.0475 %		

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 Not Flammable >12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00426%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00114%)

Classification of sample: BH2-15/07/2020-2.50

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

Sample details

Sample Name:	LoW Code:	
BH2-15/07/2020-2.50	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)
2.50 m		
Moisture content:		
17%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 17% Wet Weight 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 }				14 mg/kg	1.32	15.342 mg/kg	0.00153 %		✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.12 mg/kg	1.142	0.114 mg/kg	0.0000114 %		✓	
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19 mg/kg	1.462	23.049 mg/kg	0.0023 %		✓	
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				14 mg/kg	1.126	13.083 mg/kg	0.00131 %		✓	
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	23 mg/kg	1.56	29.777 mg/kg	0.00191 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.19 mg/kg	1.353	0.213 mg/kg	0.0000213 %		✓	
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				22 mg/kg	2.976	54.347 mg/kg	0.00543 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.77 mg/kg	2.554	1.632 mg/kg	0.000163 %		✓	
	034-002-00-8										
10	zinc { zinc oxide }				37 mg/kg	1.245	38.225 mg/kg	0.00382 %		✓	
	030-013-00-7	215-222-5	1314-13-2								
11	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %			<LOD
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
13	• pH		PH		7.9 pH		7.9 pH	7.9 pH			
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	• pyrene		204-927-3	129-00-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	2.6 mg/kg		2.158 mg/kg	0.000216 %	✓		
Total:									0.0181 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.000216%)

Classification of sample: BH2-15/07/2020-13.50

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

Sample details

Sample Name:	LoW Code:
BH2-15/07/2020-13.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
13.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
24%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 24% Wet Weight 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	15.052	mg/kg	0.00151 %	✓		
		033-003-00-0	215-481-4	1327-53-3										
2		cadmium { cadmium oxide }				0.29	mg/kg	1.142	0.252	mg/kg	0.0000252 %	✓		
		048-002-00-0	215-146-2	1306-19-0										
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				1.4	mg/kg	1.462	1.555	mg/kg	0.000156 %	✓		
			215-160-9	1308-38-9										
4		chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD	
		024-001-00-0	215-607-8	1333-82-0										
5		copper { dicopper oxide; copper (I) oxide }				2.1	mg/kg	1.126	1.797	mg/kg	0.00018 %	✓		
		029-002-00-X	215-270-7	1317-39-1										
6		lead { lead chromate }			1	4.8	mg/kg	1.56	5.69	mg/kg	0.000365 %	✓		
		082-004-00-2	231-846-0	7758-97-6										
7		mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD	
		080-010-00-X	231-299-8	7487-94-7										
8		nickel { nickel chromate }				2.2	mg/kg	2.976	4.976	mg/kg	0.000498 %	✓		
		028-035-00-7	238-766-5	14721-18-7										
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD	
		034-002-00-8												
10		zinc { zinc oxide }				12	mg/kg	1.245	11.352	mg/kg	0.00114 %	✓		
		030-013-00-7	215-222-5	1314-13-2										
11		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD	
				TPH										
12		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD	
		006-007-00-5												

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
13	• pH		PH		8.3 pH		8.3 pH	8.3 pH			
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
17	• fluorene		201-695-5	86-73-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	• anthracene		204-371-1	120-12-7	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	• fluoranthene		205-912-4	206-44-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	• pyrene		204-927-3	129-00-0	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	0.93 mg/kg		0.707 mg/kg	0.0000707 %	✓		
Total:									0.00535 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because The flammable range of ammonia in dry air is 15.15 to 27.35% and in 100% relative humidity air is 15.95 to 26.55%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00007%)

Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

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

■ **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):

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

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

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

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

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

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

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

cadmium {cadmium oxide}

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

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

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

chromium in chromium(VI) compounds {chromium(VI) 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)

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 sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide 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}

No Cr6 present

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)

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2020.274.4486.8740 (30 Sep 2020)

HazWasteOnline Database: 2020.274.4486.8740 (30 Sep 2020)

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

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

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

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

Waste Classification Report



YP6TT-YAQ7X-Q39PF

Job name

6683 (TP's)

Description/Comments

Project

6683

Site

Smallmead, Reading

Related Documents

#	Name	Description
1	HWOL_20-17984-20201001 124233.hwol	.hwol file used to create the Job

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name: Steve Hill	Company: Terra Firma South	HazWasteOnline™ Training Record:	
Date: 01 Oct 2020 12:54 GMT	The Slate Barn	Course	Date
Telephone: 01647 252414	Lower Lowley	Hazardous Waste Classification	05 Dec 2018
	Dunsford	Advanced Hazardous Waste Classification	-
	EX6 7BP		

Report

Created by: Steve Hill
Created date: 01 Oct 2020 12:54 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01-07/07/2020-0.10	0.10	Non Hazardous		3
2	TP01-07/07/2020-0.35	0.35	Non Hazardous		6
3	TP01-07/07/2020-0.70	0.70	Non Hazardous		10
4	TP01-07/07/2020-1.00	1.00	Non Hazardous		13
5	TP02-07/07/2020-0.35	0.35	Non Hazardous		17
6	TP02-07/07/2020-0.70	0.70	Non Hazardous		21
7	TP03-07/07/2020-0.10	0.10	Non Hazardous		23
8	TP03-07/07/2020-0.35	0.35	Non Hazardous		26
9	TP03-07/07/2020-0.70	0.70	Non Hazardous		29
10	TP03-07/07/2020-1.00	1.00	Non Hazardous		31
11	TP04-07/07/2020-0.35	0.35	Non Hazardous		33
12	TP04-07/07/2020-1.00	1.00	Non Hazardous		35

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	37
Appendix B: Rationale for selection of metal species	38
Appendix C: Version	39

Classification of sample: TP01-07/07/2020-0.10

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

Sample details

Sample Name:	LoW Code:	
TP01-07/07/2020-0.10	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.10 m		
Moisture content:		
6.5%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 6.5% Wet Weight 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 }				16 mg/kg	1.32	19.752 mg/kg	0.00198 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.33 mg/kg	1.142	0.352 mg/kg	0.0000352 %	✓		
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21 mg/kg	1.462	28.698 mg/kg	0.00287 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				52 mg/kg	1.126	54.741 mg/kg	0.00547 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	72 mg/kg	1.56	105.007 mg/kg	0.00673 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.19 mg/kg	1.353	0.24 mg/kg	0.000024 %	✓		
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				18 mg/kg	2.976	50.091 mg/kg	0.00501 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.2 mg/kg	2.554	<0.511 mg/kg	<0.0000511 %			<LOD
	034-002-00-8										
10	zinc { zinc chromate }				110 mg/kg	2.774	285.321 mg/kg	0.0285 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				100 mg/kg		93.5 mg/kg	0.00935 %	✓		
			TPH								
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH		PH		9.3	pH		9.3	pH	9.3 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	0.25	mg/kg		0.234	mg/kg	0.0000234 %	✓	
19	• anthracene		204-371-1	120-12-7	0.1	mg/kg		0.0935	mg/kg	0.00000935 %	✓	
20	• fluoranthene		205-912-4	206-44-0	0.76	mg/kg		0.711	mg/kg	0.0000711 %	✓	
21	• pyrene		204-927-3	129-00-0	0.79	mg/kg		0.739	mg/kg	0.0000739 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23	chrysene	601-048-00-0	205-923-4	218-01-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29	• benzo[ghi]perylene		205-883-8	191-24-2	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	3.7	mg/kg		3.46	mg/kg	0.000346 %	✓	
Total:										0.0609 %		

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 Not Flammable <12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00935%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00034%)

Classification of sample: TP01-07/07/2020-0.35

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

Sample details

Sample Name:	LoW Code:
TP01-07/07/2020-0.35	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.35 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
5.8%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 5.8% Wet Weight 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 }				11	mg/kg	1.32	13.681	mg/kg	0.00137 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.19	mg/kg	1.142	0.204	mg/kg	0.0000204 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				14	mg/kg	1.462	19.275	mg/kg	0.00193 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
5	copper { dicopper oxide; copper (I) oxide }				73	mg/kg	1.126	77.423	mg/kg	0.00774 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	49	mg/kg	1.56	71.998	mg/kg	0.00462 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				0.2	mg/kg	1.353	0.255	mg/kg	0.0000255 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				15	mg/kg	2.976	42.055	mg/kg	0.00421 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				64	mg/kg	2.774	167.248	mg/kg	0.0167 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
12	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
13	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
15	xylene 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]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
16	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				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
17	pH		PH		8.7 pH		8.7 pH	8.7 pH		
18	naphthalene 601-052-00-2	202-049-5	91-20-3		0.1 mg/kg		0.0942 mg/kg	0.00000942 %	✓	
19	acenaphthylene	205-917-1	208-96-8		0.26 mg/kg		0.245 mg/kg	0.0000245 %	✓	
20	acenaphthene	201-469-6	83-32-9		1.8 mg/kg		1.696 mg/kg	0.00017 %	✓	
21	fluorene	201-695-5	86-73-7		1.7 mg/kg		1.601 mg/kg	0.00016 %	✓	
22	phenanthrene	201-581-5	85-01-8		13 mg/kg		12.246 mg/kg	0.00122 %	✓	
23	anthracene	204-371-1	120-12-7		3.4 mg/kg		3.203 mg/kg	0.00032 %	✓	
24	fluoranthene	205-912-4	206-44-0		18 mg/kg		16.956 mg/kg	0.0017 %	✓	
25	pyrene	204-927-3	129-00-0		14 mg/kg		13.188 mg/kg	0.00132 %	✓	
26	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		8.2 mg/kg		7.724 mg/kg	0.000772 %	✓	
27	chrysene 601-048-00-0	205-923-4	218-01-9		8.7 mg/kg		8.195 mg/kg	0.00082 %	✓	
28	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		8.8 mg/kg		8.29 mg/kg	0.000829 %	✓	
29	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		4 mg/kg		3.768 mg/kg	0.000377 %	✓	
30	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		7.3 mg/kg		6.877 mg/kg	0.000688 %	✓	
31	indeno[123-cd]pyrene 205-893-2		193-39-5		5.1 mg/kg		4.804 mg/kg	0.00048 %	✓	
32	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		1.8 mg/kg		1.696 mg/kg	0.00017 %	✓	
33	benzo[ghi]perylene 205-883-8		191-24-2		4.4 mg/kg		4.145 mg/kg	0.000414 %	✓	
34	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane 602-045-00-7	200-024-3	50-29-3		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
35	chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan 602-047-00-8	200-349-0	57-74-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
36	hexachlorocyclohexanes, including lindane 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		<0.8 mg/kg		<0.8 mg/kg	<0.00008 %		<LOD
37	dieldrin (ISO) 602-049-00-9	200-484-5	60-57-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
38	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	602-051-00-X	200-775-7	72-20-8	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
39	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene	602-046-00-2	200-962-3	76-44-8	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
40	aldrin (ISO)	602-048-00-3	206-215-8	309-00-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
41	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	1.2 mg/kg		1.13 mg/kg	0.000113 %	✓	
42	phorate (ISO); O,O-diethyl ethylthiomethyl phosphorodithioate	015-033-00-6	206-052-2	298-02-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
43	demeton-S (ISO); diethyl-S-2-ethylthioethyl phosphorothioate	015-029-00-4	204-801-8	126-75-0	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
44	disulfoton (ISO); O,O-diethyl 2-ethylthioethyl phosphorodithioate	015-060-00-3	206-054-3	298-04-4	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	fenthion (ISO); O,O-dimethyl-O-(4-methylthion-m-tolyl) phosphorothioate	015-048-00-8	200-231-9	55-38-9	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
46	trichloronate (ISO); O-ethyl O-2,4,5-trichlorophenyl ethylphosphonothioate	015-098-00-0	206-326-1	327-98-0	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
47	azinphos-methyl (ISO); O,O-dimethyl-4-oxobenzotriazin-3-ylmethyl phosphorodithioate	015-039-00-9	201-676-1	86-50-0	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
48	coumaphos (ISO); O-3-chloro-4-methylcoumarin-7-yl O,O-diethyl phosphorothioate	015-038-00-3	200-285-3	56-72-4	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
49	simazine (ISO); 6-chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine	612-088-00-3	204-535-2	122-34-9	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
50	atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine	613-068-00-7	217-617-8	1912-24-9	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
51	propazine (ISO); 2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine	613-067-00-1	205-359-9	139-40-2	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
52	terbutylazine (ISO); N-tert-butyl-6-chloro-N'-ethyl-1,3,5-triazine-2,4-diamine	613-323-00-2	227-637-9	5915-41-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
53	sebumeton (ISO); 2-sec-butylamino-4-ethylamino-6-methoxy-1,3,5-triazine	613-063-00-X	247-554-1	26259-45-0	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
54	simetryn (ISO); 2,4-bis(ethylamino)-6-methylthio-1,3,5-triazine	613-065-00-0	213-801-7	1014-70-6	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
55	ametryn (ISO); N-ethyl-N'-isopropyl-6-(methylthio)-1,3,5-triazine-2,4-diamine	613-010-00-0	212-634-7	834-12-8	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
56	heptachlor epoxide; 2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	602-063-00-5	213-831-0	1024-57-3	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
57	p,p'-DDE		200-784-6	72-55-9	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
58	p,p'-DDD		200-783-0	72-54-8	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
59	p,p'-methoxychlor	200-779-9	72-43-5		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
60	endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite	602-052-00-5	204-079-4	115-29-7	<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<LOD
Total:								0.0471 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00011%)

Classification of sample: TP01-07/07/2020-0.70

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

Sample details

Sample Name:	LoW Code:
TP01-07/07/2020-0.70	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.70 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.4%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.4% Wet Weight 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 }				16	mg/kg	1.32	19.773	mg/kg	0.00198 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.23	mg/kg	1.142	0.246	mg/kg	0.0000246 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17	mg/kg	1.462	23.256	mg/kg	0.00233 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
5	copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	32.669	mg/kg	0.00327 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	55	mg/kg	1.56	80.299	mg/kg	0.00515 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				0.16	mg/kg	1.353	0.203	mg/kg	0.0000203 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				19	mg/kg	2.976	52.93	mg/kg	0.00529 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.25	mg/kg	2.554	0.598	mg/kg	0.0000598 %	✓	
	034-002-00-8											
10	zinc { zinc chromate }				87	mg/kg	2.774	225.904	mg/kg	0.0226 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	TPH (C6 to C40) petroleum group		TPH		100	mg/kg		93.6	mg/kg	0.00936 %	✓	
12	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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
13	pH		PH		8.6 pH		8.6 pH	8.6 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	acenaphthylene		205-917-1	208-96-8	0.19 mg/kg		0.178 mg/kg	0.0000178 %	✓	
16	acenaphthene		201-469-6	83-32-9	0.74 mg/kg		0.693 mg/kg	0.0000693 %	✓	
17	fluorene		201-695-5	86-73-7	0.94 mg/kg		0.88 mg/kg	0.000088 %	✓	
18	phenanthrene		201-581-5	85-01-8	9.4 mg/kg		8.798 mg/kg	0.00088 %	✓	
19	anthracene		204-371-1	120-12-7	2.7 mg/kg		2.527 mg/kg	0.000253 %	✓	
20	fluoranthene		205-912-4	206-44-0	11 mg/kg		10.296 mg/kg	0.00103 %	✓	
21	pyrene		204-927-3	129-00-0	10 mg/kg		9.36 mg/kg	0.000936 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	5.5 mg/kg		5.148 mg/kg	0.000515 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	5.4 mg/kg		5.054 mg/kg	0.000505 %	✓	
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	5.6 mg/kg		5.242 mg/kg	0.000524 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	2.9 mg/kg		2.714 mg/kg	0.000271 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	5 mg/kg		4.68 mg/kg	0.000468 %	✓	
27	indeno[123-cd]pyrene		205-893-2	193-39-5	3.4 mg/kg		3.182 mg/kg	0.000318 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	1.1 mg/kg		1.03 mg/kg	0.000103 %	✓	
29	benzo[ghi]perylene		205-883-8	191-24-2	3.3 mg/kg		3.089 mg/kg	0.000309 %	✓	
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	1 mg/kg		0.936 mg/kg	0.0000936 %	✓	
Total:								0.0566 %		

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 Not Flammable <12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00936%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00009%)

Classification of sample: TP01-07/07/2020-1.00

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

Sample details

Sample Name:	LoW Code:	
TP01-07/07/2020-1.00	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)
1.00 m		
Moisture content:		
16%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				11	mg/kg	1.32	12.2	mg/kg	0.00122 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	cadmium { cadmium oxide }				0.21	mg/kg	1.142	0.202	mg/kg	0.0000202 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18	mg/kg	1.462	22.099	mg/kg	0.00221 %	✓	
		215-160-9	1308-38-9									
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
5	copper { dicopper oxide; copper (I) oxide }				21	mg/kg	1.126	19.861	mg/kg	0.00199 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
6	lead { lead chromate }			1	44	mg/kg	1.56	57.651	mg/kg	0.0037 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
7	mercury { mercury dichloride }				0.21	mg/kg	1.353	0.239	mg/kg	0.0000239 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
8	nickel { nickel chromate }				20	mg/kg	2.976	50.001	mg/kg	0.005 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.96	mg/kg	2.554	2.059	mg/kg	0.000206 %	✓	
	034-002-00-8											
10	zinc { zinc chromate }				49	mg/kg	2.774	114.184	mg/kg	0.0114 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
12	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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5											

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8	pH		8	pH	8pH		
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
17	• fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
18	• phenanthrene				0.97	mg/kg		0.815	mg/kg	0.0000815 %	✓	
		201-581-5	85-01-8									
19	• anthracene				0.3	mg/kg		0.252	mg/kg	0.0000252 %	✓	
		204-371-1	120-12-7									
20	• fluoranthene				1.7	mg/kg		1.428	mg/kg	0.000143 %	✓	
		205-912-4	206-44-0									
21	• pyrene				1.5	mg/kg		1.26	mg/kg	0.000126 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				1	mg/kg		0.84	mg/kg	0.000084 %	✓	
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				0.81	mg/kg		0.68	mg/kg	0.000068 %	✓	
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				0.56	mg/kg		0.47	mg/kg	0.000047 %	✓	
	601-036-00-5	205-916-6	207-08-9									
26	benzo[a]pyrene; benzo[def]chrysene				0.77	mg/kg		0.647	mg/kg	0.0000647 %	✓	
	601-032-00-3	200-028-5	50-32-8									
27	• indeno[123-cd]pyrene				0.39	mg/kg		0.328	mg/kg	0.0000328 %	✓	
		205-893-2	193-39-5									
28	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									
29	• benzo[ghi]perylene				0.49	mg/kg		0.412	mg/kg	0.0000412 %	✓	
		205-883-8	191-24-2									
30	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-045-00-7	200-024-3	50-29-3									
31	chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-047-00-8	200-349-0	57-74-9									
32	hexachlorocyclohexanes, including lindane				<0.8	mg/kg		<0.8	mg/kg	<0.00008 %		<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									
33	dieldrin (ISO)				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-049-00-9	200-484-5	60-57-1									
34	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				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-051-00-X	200-775-7	72-20-8									
35	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-046-00-2	200-962-3	76-44-8									
36	aldrin (ISO)				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	602-048-00-3	206-215-8	309-00-2									
37	ammonia, anhydrous				22	mg/kg		18.48	mg/kg	0.00185 %	✓	
	007-001-00-5	231-635-3	7664-41-7									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
38	phorate (ISO); O,O-diethyl ethylthiomethyl phosphorodithioate 015-033-00-6	206-052-2	298-02-2		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
39	demeton-S (ISO); diethyl-S-2-ethylthioethyl phosphorothioate 015-029-00-4	204-801-8	126-75-0		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
40	disulfoton (ISO); O,O-diethyl 2-ethylthioethyl phosphorodithioate 015-060-00-3	206-054-3	298-04-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
41	fenthion (ISO); O,O-dimethyl-O-(4-methylthion-m-tolyl) phosphorothioate 015-048-00-8	200-231-9	55-38-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
42	trichloronate (ISO); O-ethyl O-2,4,5-trichlorophenyl ethylphosphonothioate 015-098-00-0	206-326-1	327-98-0		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
43	azinphos-methyl (ISO); O,O-dimethyl-4-oxobenzotriazin-3-ylmethyl phosphorodithioate 015-039-00-9	201-676-1	86-50-0		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
44	coumaphos (ISO); O-3-chloro-4-methylcoumarin-7-yl O,O-diethyl phosphorothioate 015-038-00-3	200-285-3	56-72-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
45	simazine (ISO); 6-chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine 612-088-00-3	204-535-2	122-34-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
46	atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine 613-068-00-7	217-617-8	1912-24-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
47	propazine (ISO); 2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine 613-067-00-1	205-359-9	139-40-2		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
48	terbutylazine (ISO); N-tert-butyl-6-chloro-N'-ethyl-1,3,5-triazine-2,4-diamine 613-323-00-2	227-637-9	5915-41-3		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
49	sebumeton (ISO); 2-sec-butylamino-4-ethylamino-6-methoxy-1,3,5-triazine 613-063-00-X	247-554-1	26259-45-0		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
50	simetryn (ISO); 2,4-bis(ethylamino)-6-methylthio-1,3,5-triazine 613-065-00-0	213-801-7	1014-70-6		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
51	ametryn (ISO); N-ethyl-N'-isopropyl-6-(methylthio)-1,3,5-triazine-2,4-diamine 613-010-00-0	212-634-7	834-12-8		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
52	heptachlor epoxide; 2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoinane 602-063-00-5	213-831-0	1024-57-3		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
53	p,p'-DDE 200-784-6	72-55-9			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
54	p,p'-DDD 200-783-0	72-54-8			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
55	p,p'-methoxychlor 200-779-9	72-43-5			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
56	endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite 602-052-00-5	204-079-4	115-29-7		<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<LOD
Total:								0.0302 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00185%)

Classification of sample: TP02-07/07/2020-0.35

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

Sample details

Sample Name:	LoW Code:	
TP02-07/07/2020-0.35	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)
0.35 m		
Moisture content:		
11%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				18 mg/kg	1.32	21.152 mg/kg	0.00212 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				0.22 mg/kg	1.142	0.224 mg/kg	0.0000224 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18 mg/kg	1.462	23.414 mg/kg	0.00234 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				17 mg/kg	1.126	17.035 mg/kg	0.0017 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	36 mg/kg	1.56	49.976 mg/kg	0.0032 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				0.26 mg/kg	1.353	0.313 mg/kg	0.0000313 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				22 mg/kg	2.976	58.275 mg/kg	0.00583 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.3 mg/kg	2.554	2.955 mg/kg	0.000295 %	✓	
	034-002-00-8									
10	zinc { zinc chromate }				51 mg/kg	2.774	125.919 mg/kg	0.0126 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
12	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
13	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							

#	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	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
15	xylene 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]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
16	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				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
17	pH		PH		8.2 pH		8.2 pH	8.2 pH			
18	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	acenaphthene 201-469-6	83-32-9			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	fluorene 201-695-5	86-73-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	phenanthrene 201-581-5	85-01-8			0.35 mg/kg		0.312 mg/kg	0.0000311 %	✓		
23	anthracene 204-371-1	120-12-7			0.13 mg/kg		0.116 mg/kg	0.0000116 %	✓		
24	fluoranthene 205-912-4	206-44-0			0.6 mg/kg		0.534 mg/kg	0.0000534 %	✓		
25	pyrene 204-927-3	129-00-0			0.59 mg/kg		0.525 mg/kg	0.0000525 %	✓		
26	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	chrysene 601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
30	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
31	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
32	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
33	benzo[ghi]perylene 205-883-8	191-24-2			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
34	DDT (ISO); clofenotane (INN); dicophane; 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane; dichlorodiphenyltrichloroethane 602-045-00-7	200-024-3	50-29-3		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
35	chlordan (ISO); 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindan 602-047-00-8	200-349-0	57-74-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
36	hexachlorocyclohexanes, including lindane 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		<0.8 mg/kg		<0.8 mg/kg	<0.00008 %			<LOD
37	dieldrin (ISO) 602-049-00-9	200-484-5	60-57-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
38	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				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	602-051-00-X	200-775-7	72-20-8							
39	heptachlor (ISO); 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	602-046-00-2	200-962-3	76-44-8							
40	aldrin (ISO)				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	602-048-00-3	206-215-8	309-00-2							
41	ammonia, anhydrous				2.4 mg/kg		2.136 mg/kg	0.000214 %	✓	
	007-001-00-5	231-635-3	7664-41-7							
42	phorate (ISO); O,O-diethyl ethylthiomethyl phosphorodithioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-033-00-6	206-052-2	298-02-2							
43	demeton-S (ISO); diethyl-S-2-ethylthioethyl phosphorothioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-029-00-4	204-801-8	126-75-0							
44	disulfoton (ISO); O,O-diethyl 2-ethylthioethyl phosphorodithioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-060-00-3	206-054-3	298-04-4							
45	fenthion (ISO); O,O-dimethyl-O-(4-methylthion-m-tolyl) phosphorothioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-048-00-8	200-231-9	55-38-9							
46	trichloronate (ISO); O-ethyl O-2,4,5-trichlorophenyl ethylphosphonothioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-098-00-0	206-326-1	327-98-0							
47	azinphos-methyl (ISO); O,O-dimethyl-4-oxobenzotriazin-3-ylmethyl phosphorodithioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-039-00-9	201-676-1	86-50-0							
48	coumaphos (ISO); O-3-chloro-4-methylcoumarin-7-yl O,O-diethyl phosphorothioate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	015-038-00-3	200-285-3	56-72-4							
49	simazine (ISO); 6-chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	612-088-00-3	204-535-2	122-34-9							
50	atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-068-00-7	217-617-8	1912-24-9							
51	propazine (ISO); 2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-067-00-1	205-359-9	139-40-2							
52	terbutylazine (ISO); N-tert-butyl-6-chloro-N-ethyl-1,3,5-triazine-2,4-diamine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-323-00-2	227-637-9	5915-41-3							
53	sebumeton (ISO); 2-sec-butylamino-4-ethylamino-6-methoxy-1,3,5-triazine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-063-00-X	247-554-1	26259-45-0							
54	simetryn (ISO); 2,4-bis(ethylamino)-6-methylthio-1,3,5-triazine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-065-00-0	213-801-7	1014-70-6							
55	ametryn (ISO); N-ethyl-N'-isopropyl-6-(methylthio)-1,3,5-triazine-2,4-diamine				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	613-010-00-0	212-634-7	834-12-8							
56	heptachlor epoxide; 2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	602-063-00-5	213-831-0	1024-57-3							
57	p,p'-DDE				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		200-784-6	72-55-9							
58	p,p'-DDD				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		200-783-0	72-54-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
59	p,p'-methoxychlor	200-779-9	72-43-5		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
60	endosulfan (ISO); 1,2,3,4,7,7-hexachloro-8,9,10-trinorborn-2-en-5,6-ylenedimethylene sulfite; 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-en-2,3-ylenedimethylene sulfite	602-052-00-5	204-079-4	115-29-7	<0.6 mg/kg		<0.6 mg/kg	<0.00006 %		<LOD
Total:								0.0294 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00021%)

Classification of sample: TP02-07/07/2020-0.70

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

Sample details

Sample Name:	LoW Code:	
TP02-07/07/2020-0.70	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)
0.70 m		
Moisture content:		
9.6%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight 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 }				13 mg/kg	1.32	15.516 mg/kg	0.00155 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				0.18 mg/kg	1.142	0.186 mg/kg	0.0000186 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	22.461 mg/kg	0.00225 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				17 mg/kg	1.126	17.303 mg/kg	0.00173 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	35 mg/kg	1.56	49.353 mg/kg	0.00316 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				0.25 mg/kg	1.353	0.306 mg/kg	0.0000306 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				21 mg/kg	2.976	56.501 mg/kg	0.00565 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.89 mg/kg	2.554	2.055 mg/kg	0.000205 %	✓	
	034-002-00-8									
10	zinc { zinc chromate }				74 mg/kg	2.774	185.579 mg/kg	0.0186 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8.1	pH		8.1	pH	8.1 pH		
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
17	• fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
18	• phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8									
19	• anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
20	• fluoranthene				0.37	mg/kg		0.334	mg/kg	0.0000334 %	✓	
		205-912-4	206-44-0									
21	• pyrene				0.44	mg/kg		0.398	mg/kg	0.0000398 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
26	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									
27	• indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
28	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									
29	• benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
30	ammonia, anhydrous				1.7	mg/kg		1.537	mg/kg	0.000154 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00015%)

Classification of sample: TP03-07/07/2020-0.10

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

Sample details

Sample Name:	LoW Code:	
TP03-07/07/2020-0.10	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.10 m		
Moisture content:		
15%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight 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 }				13 mg/kg	1.32	14.59 mg/kg	0.00146 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.27 mg/kg	1.142	0.262 mg/kg	0.0000262 %	✓		
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24 mg/kg	1.462	29.816 mg/kg	0.00298 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				48 mg/kg	1.126	45.936 mg/kg	0.00459 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	70 mg/kg	1.56	92.809 mg/kg	0.00595 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.15 mg/kg	1.353	0.173 mg/kg	0.0000173 %	✓		
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				19 mg/kg	2.976	48.067 mg/kg	0.00481 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.26 mg/kg	2.554	0.564 mg/kg	0.0000564 %	✓		
	034-002-00-8										
10	zinc { zinc chromate }				100 mg/kg	2.774	235.802 mg/kg	0.0236 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				81 mg/kg		68.85 mg/kg	0.00689 %	✓		
			TPH								
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	■ pH		PH		8	pH		8	pH	8pH		
14	■ naphthalene	601-052-00-2	202-049-5	91-20-3	0.17	mg/kg		0.145	mg/kg	0.0000145 %	✓	
15	■ acenaphthylene		205-917-1	208-96-8	0.23	mg/kg		0.196	mg/kg	0.0000196 %	✓	
16	■ acenaphthene		201-469-6	83-32-9	0.67	mg/kg		0.57	mg/kg	0.000057 %	✓	
17	■ fluorene		201-695-5	86-73-7	1	mg/kg		0.85	mg/kg	0.000085 %	✓	
18	■ phenanthrene		201-581-5	85-01-8	11	mg/kg		9.35	mg/kg	0.000935 %	✓	
19	■ anthracene		204-371-1	120-12-7	4	mg/kg		3.4	mg/kg	0.00034 %	✓	
20	■ fluoranthene		205-912-4	206-44-0	13	mg/kg		11.05	mg/kg	0.00111 %	✓	
21	■ pyrene		204-927-3	129-00-0	12	mg/kg		10.2	mg/kg	0.00102 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	5.8	mg/kg		4.93	mg/kg	0.000493 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	4.7	mg/kg		3.995	mg/kg	0.0004 %	✓	
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	4.1	mg/kg		3.485	mg/kg	0.000349 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	2.8	mg/kg		2.38	mg/kg	0.000238 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	4.9	mg/kg		4.165	mg/kg	0.000417 %	✓	
27	■ indeno[123-cd]pyrene		205-893-2	193-39-5	3	mg/kg		2.55	mg/kg	0.000255 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.99	mg/kg		0.842	mg/kg	0.0000841 %	✓	
29	■ benzo[ghi]perylene		205-883-8	191-24-2	3.2	mg/kg		2.72	mg/kg	0.000272 %	✓	
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	8.6	mg/kg		7.31	mg/kg	0.000731 %	✓	
Total:										0.0574 %		

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 Not Flammable <12.5%

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00689%)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00073%)

Classification of sample: TP03-07/07/2020-0.35

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

Sample details

Sample Name:	LoW Code:
TP03-07/07/2020-0.35	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.35 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.5%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.5% Wet Weight 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	18.518 mg/kg	0.00185 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.21 mg/kg	1.142	0.224 mg/kg	0.0000224 %	✓		
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	21.865 mg/kg	0.00219 %	✓		
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				27 mg/kg	1.126	28.423 mg/kg	0.00284 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	58 mg/kg	1.56	84.589 mg/kg	0.00542 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.2 mg/kg	1.353	0.253 mg/kg	0.0000253 %	✓		
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				15 mg/kg	2.976	41.742 mg/kg	0.00417 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<0.2 mg/kg	2.554	<0.511 mg/kg	<0.0000511 %			<LOD
	034-002-00-8										
10	zinc { zinc chromate }				57 mg/kg	2.774	147.848 mg/kg	0.0148 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
12	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
13	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								

#	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	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
15	xylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<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]								
16	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %			<LOD
	006-007-00-5										
17	pH		PH		8.3 pH		8.3 pH	8.3 pH			
18	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
19	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
20	acenaphthene				0.21 mg/kg		0.196 mg/kg	0.0000196 %		✓	
		201-469-6	83-32-9								
21	fluorene				0.27 mg/kg		0.252 mg/kg	0.0000252 %		✓	
		201-695-5	86-73-7								
22	phenanthrene				3.4 mg/kg		3.179 mg/kg	0.000318 %		✓	
		201-581-5	85-01-8								
23	anthracene				0.82 mg/kg		0.767 mg/kg	0.0000767 %		✓	
		204-371-1	120-12-7								
24	fluoranthene				6.3 mg/kg		5.89 mg/kg	0.000589 %		✓	
		205-912-4	206-44-0								
25	pyrene				5.6 mg/kg		5.236 mg/kg	0.000524 %		✓	
		204-927-3	129-00-0								
26	benzo[a]anthracene				2.9 mg/kg		2.711 mg/kg	0.000271 %		✓	
	601-033-00-9	200-280-6	56-55-3								
27	chrysene				3 mg/kg		2.805 mg/kg	0.000281 %		✓	
	601-048-00-0	205-923-4	218-01-9								
28	benzo[b]fluoranthene				3.4 mg/kg		3.179 mg/kg	0.000318 %		✓	
	601-034-00-4	205-911-9	205-99-2								
29	benzo[k]fluoranthene				1.7 mg/kg		1.59 mg/kg	0.000159 %		✓	
	601-036-00-5	205-916-6	207-08-9								
30	benzo[a]pyrene; benzo[def]chrysene				3 mg/kg		2.805 mg/kg	0.000281 %		✓	
	601-032-00-3	200-028-5	50-32-8								
31	indeno[123-cd]pyrene				2.3 mg/kg		2.15 mg/kg	0.000215 %		✓	
		205-893-2	193-39-5								
32	dibenz[a,h]anthracene				0.91 mg/kg		0.851 mg/kg	0.0000851 %		✓	
	601-041-00-2	200-181-8	53-70-3								
33	benzo[ghi]perylene				1.8 mg/kg		1.683 mg/kg	0.000168 %		✓	
		205-883-8	191-24-2								
34	ammonia, anhydrous				1 mg/kg		0.935 mg/kg	0.0000935 %		✓	
	007-001-00-5	231-635-3	7664-41-7								
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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00009%)

Classification of sample: TP03-07/07/2020-0.70

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

Sample details

Sample Name:	LoW Code:	
TP03-07/07/2020-0.70	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)
0.70 m		
Moisture content:		
11%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				23	mg/kg	1.32	27.027	mg/kg	0.0027 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.42	mg/kg	1.142	0.427	mg/kg	0.0000427 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18	mg/kg	1.462	23.414	mg/kg	0.00234 %	✓	
			215-160-9	1308-38-9									
4		chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									
5		copper { dicopper oxide; copper (I) oxide }				59	mg/kg	1.126	59.12	mg/kg	0.00591 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
6		lead { lead chromate }			1	64	mg/kg	1.56	88.847	mg/kg	0.0057 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
7		mercury { mercury dichloride }				0.24	mg/kg	1.353	0.289	mg/kg	0.0000289 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
8		nickel { nickel chromate }				20	mg/kg	2.976	52.978	mg/kg	0.0053 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.22	mg/kg	2.554	0.5	mg/kg	0.00005 %	✓	
		034-002-00-8											
10		zinc { zinc chromate }				71	mg/kg	2.774	175.298	mg/kg	0.0175 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
11		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
12		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8.2	pH		8.2	pH	8.2 pH		
14	naphthalene				0.11	mg/kg		0.0979	mg/kg	0.00000979 %	✓	
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				0.21	mg/kg		0.187	mg/kg	0.0000187 %	✓	
		205-917-1	208-96-8									
16	• acenaphthene				0.22	mg/kg		0.196	mg/kg	0.0000196 %	✓	
		201-469-6	83-32-9									
17	• fluorene				0.36	mg/kg		0.32	mg/kg	0.000032 %	✓	
		201-695-5	86-73-7									
18	• phenanthrene				3.4	mg/kg		3.026	mg/kg	0.000303 %	✓	
		201-581-5	85-01-8									
19	• anthracene				1.4	mg/kg		1.246	mg/kg	0.000125 %	✓	
		204-371-1	120-12-7									
20	• fluoranthene				7.2	mg/kg		6.408	mg/kg	0.000641 %	✓	
		205-912-4	206-44-0									
21	• pyrene				6.7	mg/kg		5.963	mg/kg	0.000596 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				3.5	mg/kg		3.115	mg/kg	0.000312 %	✓	
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				3.2	mg/kg		2.848	mg/kg	0.000285 %	✓	
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				4.4	mg/kg		3.916	mg/kg	0.000392 %	✓	
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				1.8	mg/kg		1.602	mg/kg	0.00016 %	✓	
	601-036-00-5	205-916-6	207-08-9									
26	benzo[a]pyrene; benzo[def]chrysene				3.3	mg/kg		2.937	mg/kg	0.000294 %	✓	
	601-032-00-3	200-028-5	50-32-8									
27	• indeno[123-cd]pyrene				2.1	mg/kg		1.869	mg/kg	0.000187 %	✓	
		205-893-2	193-39-5									
28	dibenz[a,h]anthracene				0.62	mg/kg		0.552	mg/kg	0.0000552 %	✓	
	601-041-00-2	200-181-8	53-70-3									
29	• benzo[ghi]perylene				2	mg/kg		1.78	mg/kg	0.000178 %	✓	
		205-883-8	191-24-2									
30	ammonia, anhydrous				2.8	mg/kg		2.492	mg/kg	0.000249 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
Total:										0.0446 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00024%)

Classification of sample: TP03-07/07/2020-1.00

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

Sample details

Sample Name:	LoW Code:	
TP03-07/07/2020-1.00	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)
1.00 m		
Moisture content:		
13%		
(wet weight correction)		

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				14 mg/kg	1.32	16.082 mg/kg	0.00161 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				0.24 mg/kg	1.142	0.239 mg/kg	0.0000239 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	21.616 mg/kg	0.00216 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				46 mg/kg	1.126	45.058 mg/kg	0.00451 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	55 mg/kg	1.56	74.637 mg/kg	0.00479 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				0.27 mg/kg	1.353	0.318 mg/kg	0.0000318 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				18 mg/kg	2.976	46.608 mg/kg	0.00466 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.49 mg/kg	2.554	1.089 mg/kg	0.000109 %	✓	
	034-002-00-8									
10	zinc { zinc chromate }				65 mg/kg	2.774	156.878 mg/kg	0.0157 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
12	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 }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8.1	pH		8.1	pH	8.1 pH		
14	naphthalene				0.14	mg/kg		0.122	mg/kg	0.0000122 %	✓	
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				0.21	mg/kg		0.183	mg/kg	0.0000183 %	✓	
		205-917-1	208-96-8									
16	• acenaphthene				0.62	mg/kg		0.539	mg/kg	0.0000539 %	✓	
		201-469-6	83-32-9									
17	• fluorene				0.73	mg/kg		0.635	mg/kg	0.0000635 %	✓	
		201-695-5	86-73-7									
18	• phenanthrene				5.1	mg/kg		4.437	mg/kg	0.000444 %	✓	
		201-581-5	85-01-8									
19	• anthracene				2	mg/kg		1.74	mg/kg	0.000174 %	✓	
		204-371-1	120-12-7									
20	• fluoranthene				9.5	mg/kg		8.265	mg/kg	0.000827 %	✓	
		205-912-4	206-44-0									
21	• pyrene				8.5	mg/kg		7.395	mg/kg	0.000739 %	✓	
		204-927-3	129-00-0									
22	benzo[a]anthracene				4.5	mg/kg		3.915	mg/kg	0.000392 %	✓	
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				4.1	mg/kg		3.567	mg/kg	0.000357 %	✓	
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				4	mg/kg		3.48	mg/kg	0.000348 %	✓	
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				2.1	mg/kg		1.827	mg/kg	0.000183 %	✓	
	601-036-00-5	205-916-6	207-08-9									
26	benzo[a]pyrene; benzo[def]chrysene				3.7	mg/kg		3.219	mg/kg	0.000322 %	✓	
	601-032-00-3	200-028-5	50-32-8									
27	• indeno[123-cd]pyrene				2	mg/kg		1.74	mg/kg	0.000174 %	✓	
		205-893-2	193-39-5									
28	dibenz[a,h]anthracene				0.7	mg/kg		0.609	mg/kg	0.0000609 %	✓	
	601-041-00-2	200-181-8	53-70-3									
29	• benzo[ghi]perylene				2	mg/kg		1.74	mg/kg	0.000174 %	✓	
		205-883-8	191-24-2									
30	ammonia, anhydrous				19	mg/kg		16.53	mg/kg	0.00165 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
Total:										0.0408 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00165%)

Classification of sample: TP04-07/07/2020-0.35

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

Sample details

Sample Name:	LoW Code:	
TP04-07/07/2020-0.35	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)
0.35 m		
Moisture content:		
8.5%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 8.5% Wet Weight 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 }				16 mg/kg	1.32	19.33	mg/kg	0.00193 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	cadmium { cadmium oxide }				0.17 mg/kg	1.142	0.178	mg/kg	0.0000178 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				16 mg/kg	1.462	21.397	mg/kg	0.00214 %	✓	
		215-160-9	1308-38-9								
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0								
5	copper { dicopper oxide; copper (I) oxide }				15 mg/kg	1.126	15.453	mg/kg	0.00155 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
6	lead { lead chromate }			1	27 mg/kg	1.56	38.535	mg/kg	0.00247 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
7	mercury { mercury dichloride }				0.18 mg/kg	1.353	0.223	mg/kg	0.0000223 %	✓	
	080-010-00-X	231-299-8	7487-94-7								
8	nickel { nickel chromate }				20 mg/kg	2.976	54.466	mg/kg	0.00545 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.1 mg/kg	2.554	2.57	mg/kg	0.000257 %	✓	
	034-002-00-8										
10	zinc { zinc chromate }				47 mg/kg	2.774	119.302	mg/kg	0.0119 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
12	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 }				<0.5 mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
	006-007-00-5										

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH		P _H		8.2	pH		8.2	pH	8.2 pH		
14	naphthalene	601-052-00-2	202-049-5	91-20-3	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	• acenaphthylene		205-917-1	208-96-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
16	• acenaphthene		201-469-6	83-32-9	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
17	• fluorene		201-695-5	86-73-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
18	• phenanthrene		201-581-5	85-01-8	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
19	• anthracene		204-371-1	120-12-7	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
20	• fluoranthene		205-912-4	206-44-0	0.6	mg/kg		0.549	mg/kg	0.0000549 %	✓	
21	• pyrene		204-927-3	129-00-0	0.61	mg/kg		0.558	mg/kg	0.0000558 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.34	mg/kg		0.311	mg/kg	0.0000311 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9	0.37	mg/kg		0.339	mg/kg	0.0000339 %	✓	
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.47	mg/kg		0.43	mg/kg	0.000043 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.21	mg/kg		0.192	mg/kg	0.0000192 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.44	mg/kg		0.403	mg/kg	0.0000403 %	✓	
27	• indeno[123-cd]pyrene		205-893-2	193-39-5	0.26	mg/kg		0.238	mg/kg	0.0000238 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.18	mg/kg		0.165	mg/kg	0.0000165 %	✓	
29	• benzo[ghi]perylene		205-883-8	191-24-2	0.35	mg/kg		0.32	mg/kg	0.000032 %	✓	
30	ammonia, anhydrous	007-001-00-5	231-635-3	7664-41-7	2.6	mg/kg		2.379	mg/kg	0.000238 %	✓	
Total:										0.0276 %		

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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.000238%)

Classification of sample: TP04-07/07/2020-1.00

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

Sample details

Sample Name:	LoW Code:	
TP04-07/07/2020-1.00	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)
1.00 m		
Moisture content:		
43%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 43% Wet Weight 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 }				6.6 mg/kg	1.32	4.967 mg/kg	0.000497 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23 mg/kg	1.462	19.161 mg/kg	0.00192 %	✓	
		215-160-9	1308-38-9							
4	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
5	copper { dicopper oxide; copper (I) oxide }				18 mg/kg	1.126	11.552 mg/kg	0.00116 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
6	lead { lead chromate }			1	16 mg/kg	1.56	14.226 mg/kg	0.000912 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
7	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
8	nickel { nickel chromate }				40 mg/kg	2.976	67.859 mg/kg	0.00679 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				0.9 mg/kg	2.554	1.31 mg/kg	0.000131 %	✓	
	034-002-00-8									
10	zinc { zinc chromate }				51 mg/kg	2.774	80.644 mg/kg	0.00806 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
11	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
12	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 }				0.6 mg/kg	1.884	0.644 mg/kg	0.0000644 %	✓	
	006-007-00-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
13	• pH				8.1	pH		8.1	pH	8.1 pH		
14	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
15	• acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8									
16	• acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9									
17	• fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7									
18	• phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		201-581-5	85-01-8									
19	• anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7									
20	• fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-912-4	206-44-0									
21	• pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		204-927-3	129-00-0									
22	benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-033-00-9	200-280-6	56-55-3									
23	chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
24	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
25	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
26	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									
27	• indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
28	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									
29	• benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
30	ammonia, anhydrous				6.9	mg/kg		3.933	mg/kg	0.000393 %	✓	
	007-001-00-5	231-635-3	7664-41-7									
Total:										0.0212 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated 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(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Force this Hazardous property to non hazardous because Not Flammable <15.15%

Hazard Statements hit:

Flam. Gas 2; H221 "Flammable gas."

Because of determinand:

ammonia, anhydrous: (conc.: 0.00039%)

Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

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

■ **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):

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

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

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

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

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

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

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

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

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

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

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

■ **p,p'-DDE** (EC Number: 200-784-6, CAS Number: 72-55-9)

Description/Comments: other names: 4,4'-DDE; 2,2-bis(p-chlorophenyl)-1,1-dichloroethylene
Data source: ECHA's C&L inventory database
<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/21845>
Data source date: 11 Jan 2018
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 3 H311 , Skin Irrit. 2 H315 , Acute Tox. 3 H331 , Acute Tox. 4 H332 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **p,p'-DDD** (EC Number: 200-783-0, CAS Number: 72-54-8)

Description/Comments: other names: Rhothane; p,p'-TDE; 4,4'-DDD; 4,4'-TDE;
Data source: ECHA's C&L inventory database
<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/21283>
Data source date: 11 Jan 2018
Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 4 H312 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **p,p'-methoxychlor** (EC Number: 200-779-9, CAS Number: 72-43-5)

Description/Comments: other names: Methoxychlor; DMDT; Dimethoxy-DDT; Methoxy-DDT; Methoxide; p,p'-Dimethoxydiphenyltrichloroethane; 1,1,1-Trichloro-2,2-bis(4-methoxyphenyl)ethane
Data source: ECHA's C&L inventory database
<https://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database/-/discli/details/112624>
Data source date: 11 Jan 2018
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Acute Tox. 4 H332 , Carc. 2 H351 , Repr. 2 H361 , STOT SE 2 H371 , STOT RE 2 H373 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as

required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

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

chromium in chromium(VI) compounds {chromium(VI) 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)

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 chromate}

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

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)

Appendix C: Version

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

HazWasteOnline Classification Engine Version: 2020.274.4486.8740 (30 Sep 2020)

HazWasteOnline Database: 2020.274.4486.8740 (30 Sep 2020)

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
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
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

Annex D: Soil Property Test Results

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
BH1	2.50		B	Greyish brown mottled bluish grey silty very gravelly SAND.															Particle Size Distribution
BH1	3.00-3.45		U	Very soft brownish grey very gravelly sandy clayey SILT.	21.2	41	27	14	36	1.95	1.61	Undisturbed	60	26	13				
BH1	3.50-4.00		B	Dark grey silty very sandy GRAVEL.															Particle Size Distribution
BH1	7.30-7.80		B	Grey silty fine SAND.															Particle Size Distribution
BH2	2.00-2.45	31470	U100	Very soft brown slightly organic very gravelly silty CLAY.	69.2	92	31	61	65										
BH2	3.50-4.00		B	Greyish brown very sandy GRAVEL with rare roots.															Particle Size Distribution
BH2	4.50		B	Bluish grey and grey slightly sandy silty CLAY with rare fine to medium gravel.	16.0	31	14	17	86										
BH2	8.80-9.30		B	Grey fine to medium SAND															Particle Size Distribution
BH2	11.80-12.00		B	Grey very sandy GRAVEL with wood fragments.															Particle Size Distribution
BH2	12.10-12.50		B	Grey silty CLAY.	26.5	47	23	24	100										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

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SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
BH2	12.10-12.50		B																Chemical
BH3	1.40-1.80		B	Dark brown sandy silty CLAY with occasional fine to medium gravel and rare shell fragments.															Particle Size Distribution
BH3	1.80-2.00		B	Multi-coloured silty CLAY with occasional fine to medium gravel.	38.8	39	20	19	90										
BH3	2.60-3.00		B	Greyish brown very sandy GRAVEL.															Particle Size Distribution
BH3	4.00-4.45		U	Very soft brown mottled grey sandy very gravelly silty CLAY.	19.1	37	17	20	54	2.04	1.71	Undisturbed	80	13	7				Particle Size Distribution
BH3	6.50-6.95		U	Firm grey silty CLAY.	25.0	31	14	17	100	2.20	1.76	Undisturbed	130	162	81				
BH3	6.95		B																Chemical
BH3	10.40-10.80		B	Grey fine to medium SAND.															Particle Size Distribution
BH3	13.00-13.50		B	Grey and grey brown sandy silty CLAY wih rare gravel.	19.3	54	18	36	72										
BH3	14.00-14.45		B																Chemical

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

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Notes

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Tested by Chemtest Ltd : MCERTS / UKAS No 2183

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(Ref 1597406918)

PARTICLE SIZE DISTRIBUTION

Location
Depth (m)
Sample Type

BH1
2.50
B

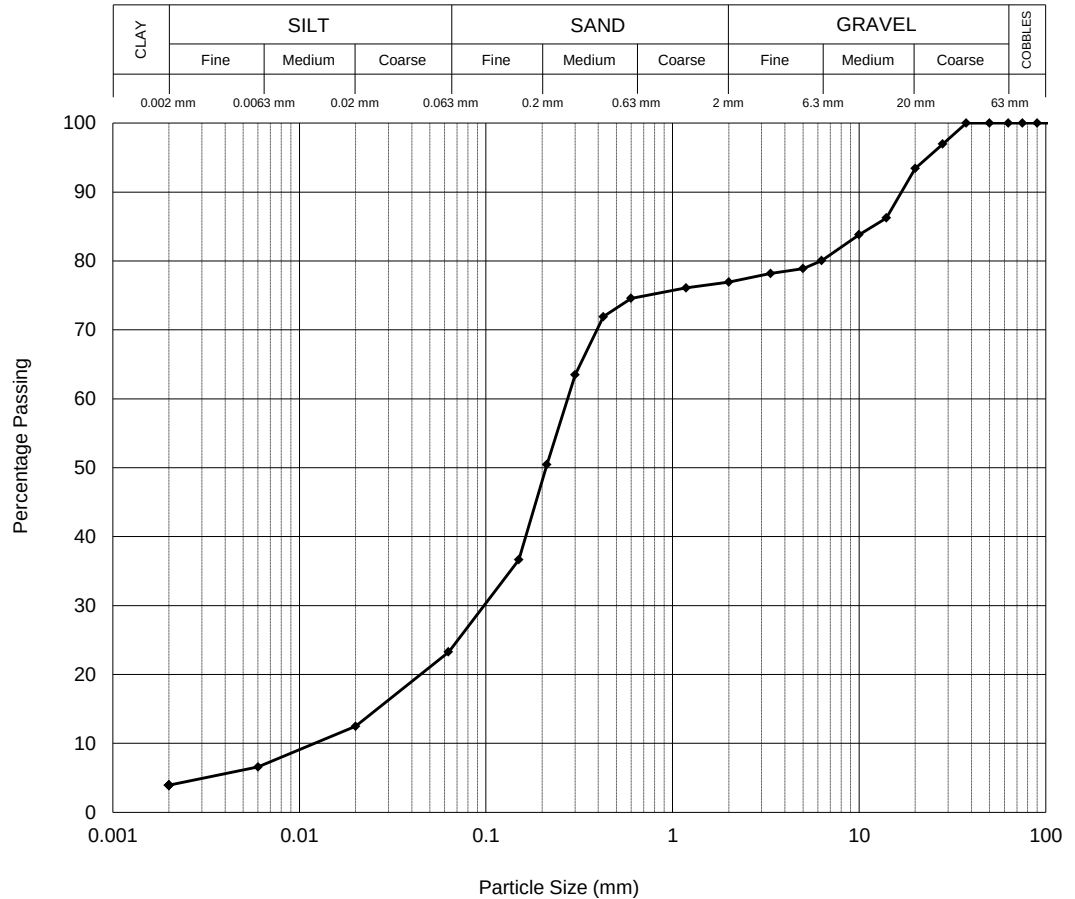
Description

Greyish brown mottled bluish grey silty very gravelly SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	97
20.0 mm	93
14.0 mm	86
10.0 mm	84
6.30 mm	80
5.00 mm	79
3.35 mm	78
2.00 mm	77
1.18 mm	76
600 µm	75
425 µm	72
300 µm	63
212 µm	50
150 µm	37
63 µm	23



Sedimentation	
Pre-treatment used	
Temp (°C)	25
Size	% Pass
20 µm	12
6 µm	7
2 µm	4

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	23.1
Sand	53.7
Silt	19.3
Clay	3.9

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PARTICLE SIZE DISTRIBUTION

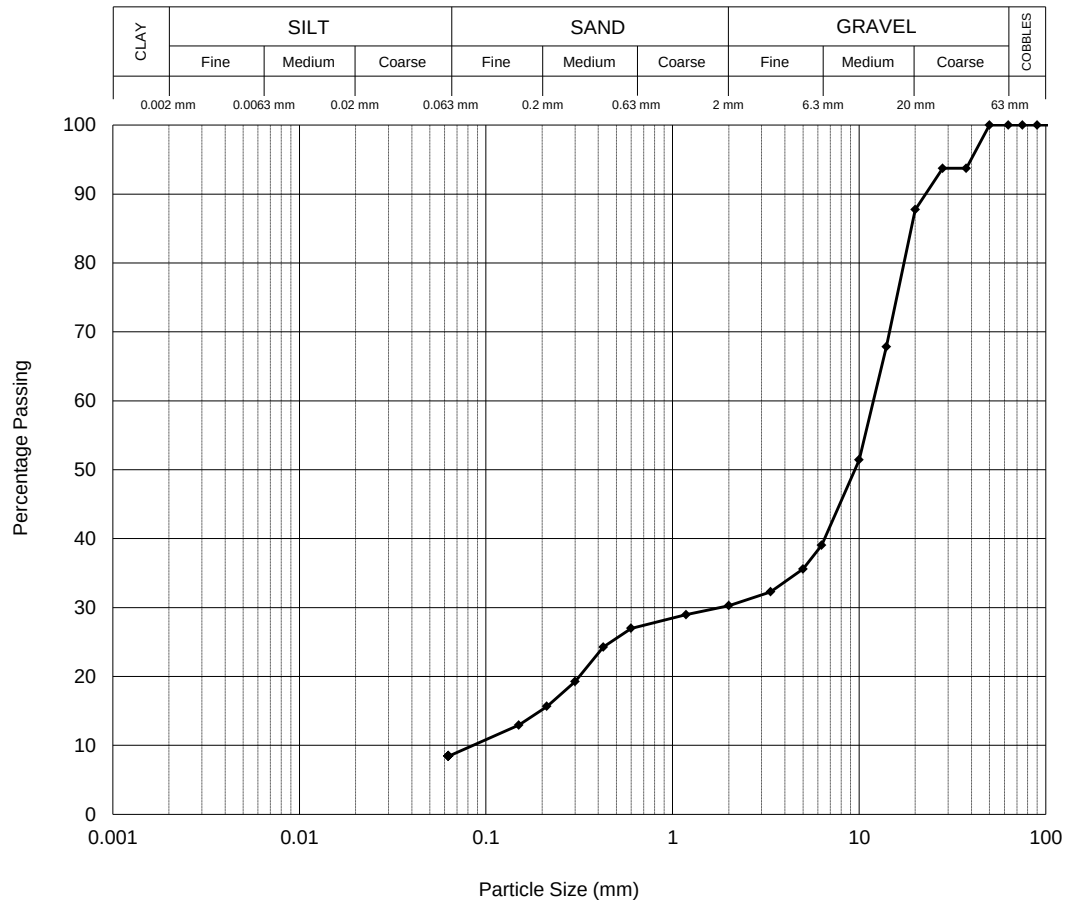
Location BH1
 Depth (m) 3.50-4.00
 Sample Type B

Description

Dark grey silty very sandy GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	94
28.0 mm	94
20.0 mm	88
14.0 mm	68
10.0 mm	51
6.30 mm	39
5.00 mm	36
3.35 mm	32
2.00 mm	30
1.18 mm	29
600 µm	27
425 µm	24
300 µm	19
212 µm	16
150 µm	13
63 µm	8



Particle Proportions	
Cobbles	0.0
Gravel	69.7
Sand	21.8
Silt & Clay	8.5

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Page 1 of 1

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PARTICLE SIZE DISTRIBUTION

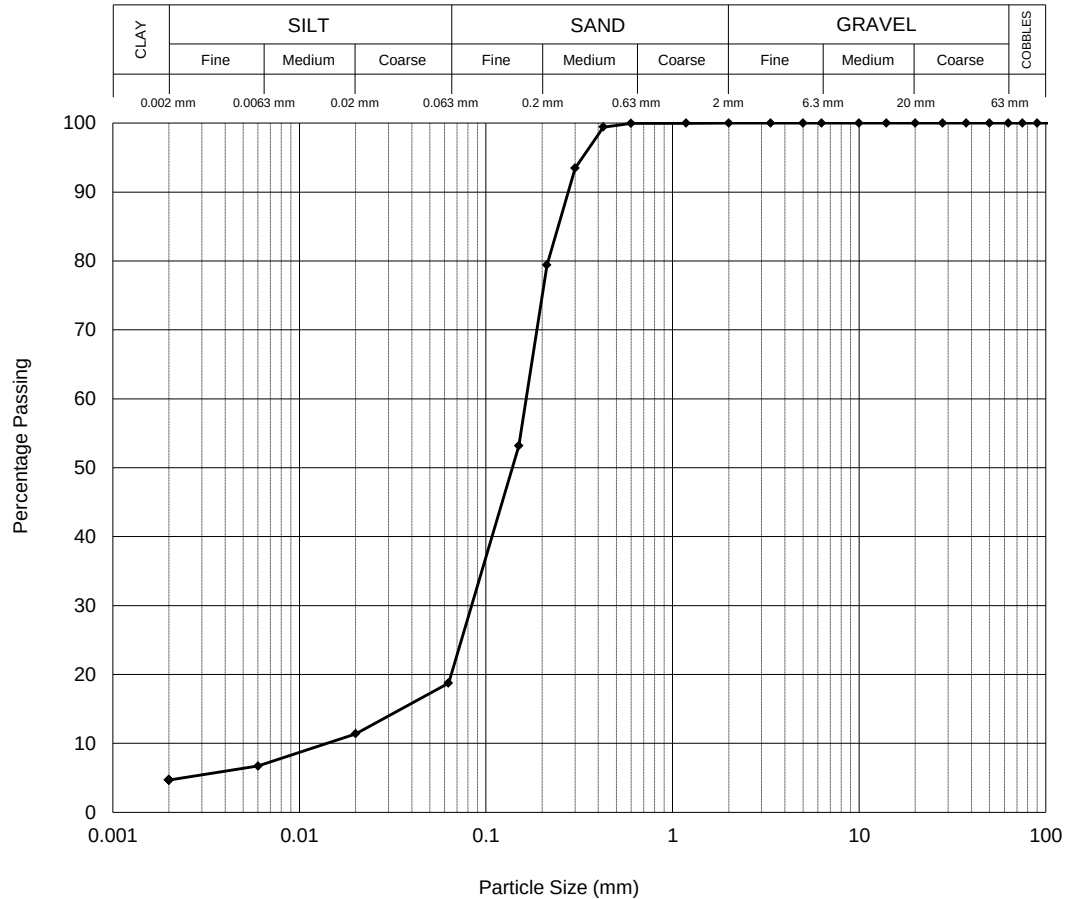
Location BH1
Depth (m) 7.30-7.80
Sample Type B

Description

Grey silty fine SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve
BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
600 µm	100
425 µm	99
300 µm	93
212 µm	79
150 µm	53
63 µm	19



Sedimentation	
Pre-treatment used	
Temp (°C)	25
Size	% Pass
20 µm	11
6 µm	7
2 µm	5

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	0.0
Sand	81.3
Silt	14.1
Clay	4.6

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Page 1 of 1

(Ref 1597406926)

PARTICLE SIZE DISTRIBUTION

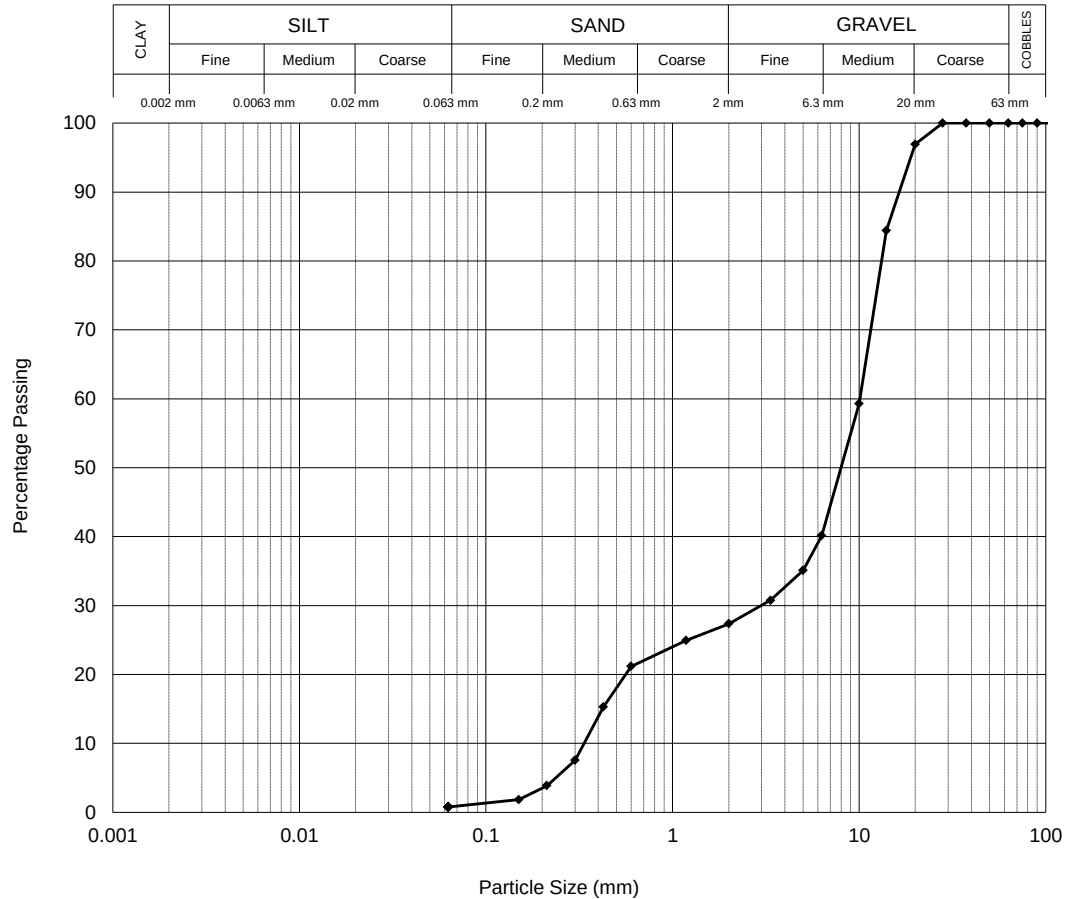
Location BH2
Depth (m) 3.50-4.00
Sample Type B

Description

Greyish brown very sandy GRAVEL with rare roots.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	97
14.0 mm	84
10.0 mm	59
6.30 mm	40
5.00 mm	35
3.35 mm	31
2.00 mm	27
1.18 mm	25
600 µm	21
425 µm	15
300 µm	8
212 µm	4
150 µm	2
63 µm	1



Particle Proportions	
Cobbles	0.0
Gravel	72.6
Sand	26.6
Silt & Clay	0.8

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Page 1 of 1

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PARTICLE SIZE DISTRIBUTION

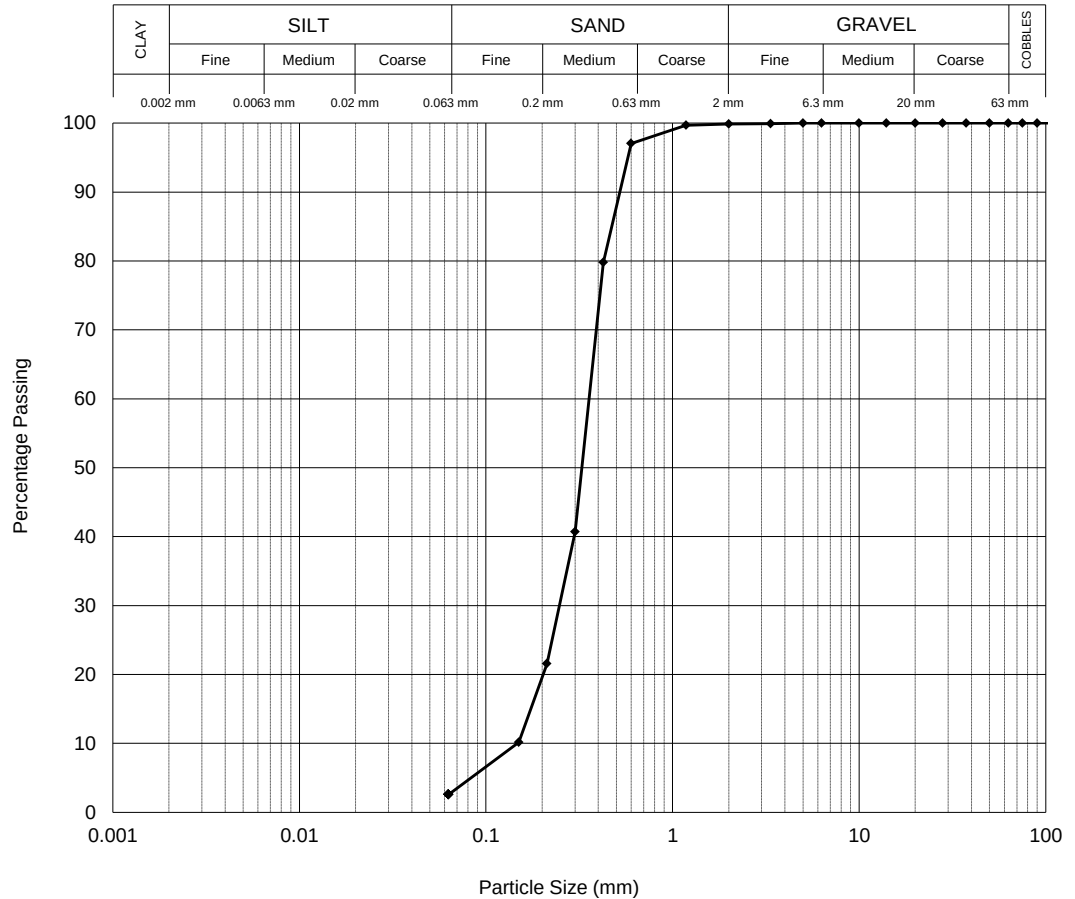
Location BH2
 Depth (m) 8.80-9.30
 Sample Type B

Description

Grey fine to medium SAND

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	100
600 µm	97
425 µm	80
300 µm	41
212 µm	22
150 µm	10
63 µm	3



Particle Proportions	
Cobbles	0.0
Gravel	0.1
Sand	97.3
Silt & Clay	2.6

Processed by SB
 Checked and Approved by

S Burke

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PARTICLE SIZE DISTRIBUTION

Location BH2
 Depth (m) 11.80-12.00
 Sample Type B

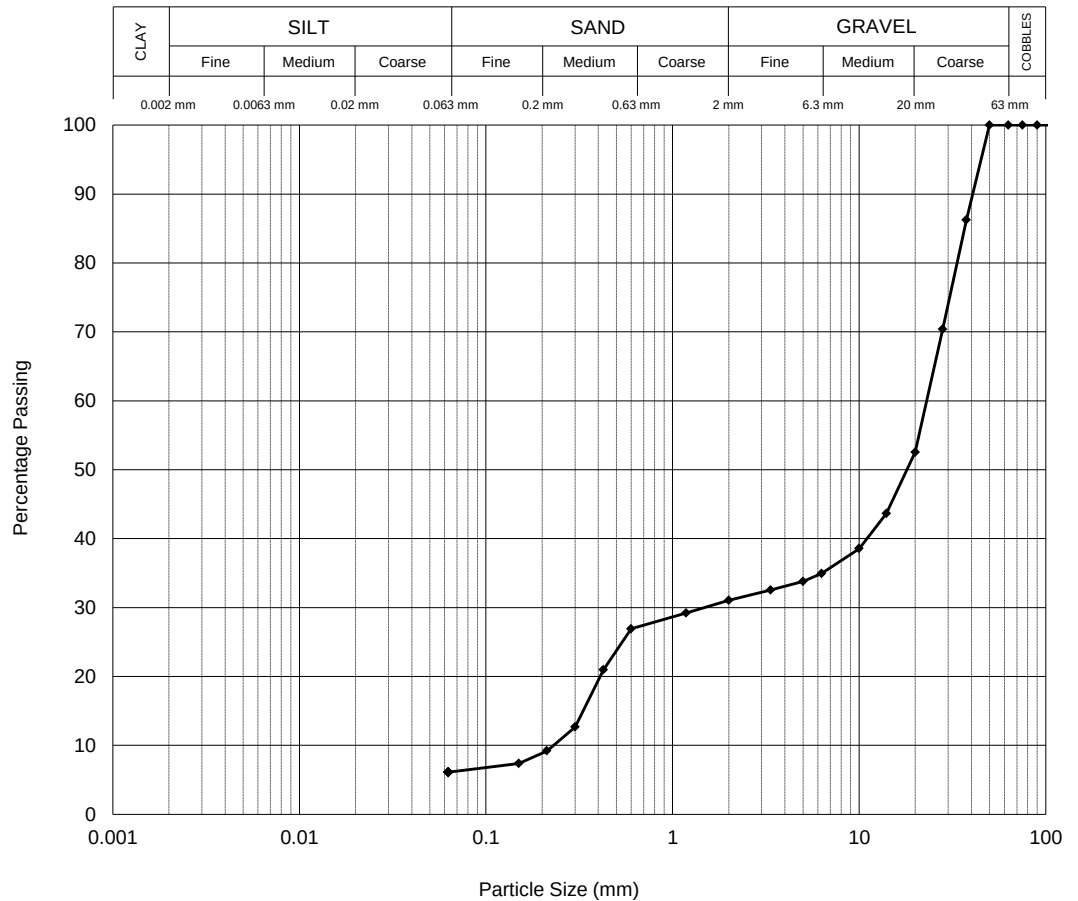
Description

Grey very sandy GRAVEL with wood fragments.

Remarks Insufficient sample supplied to comply with BS EN ISO 17892-4 : 2016 minimum mass requirements

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	86
28.0 mm	70
20.0 mm	53
14.0 mm	44
10.0 mm	39
6.30 mm	35
5.00 mm	34
3.35 mm	33
2.00 mm	31
1.18 mm	29
600 µm	27
425 µm	21
300 µm	13
212 µm	9
150 µm	7
63 µm	6



Particle Proportions	
Cobbles	0.0
Gravel	68.9
Sand	25.0
Silt & Clay	6.1

Processed by SB
 Checked and Approved by

S Burke

S Burke - Senior Technician
 14/08/2020

Project Number:

GEO / 31470

Project Name:

**SMALLMEAD, READING
 6683**

GEOLABS



PARTICLE SIZE DISTRIBUTION

Location BH3
 Depth (m) 1.40-1.80
 Sample Type B

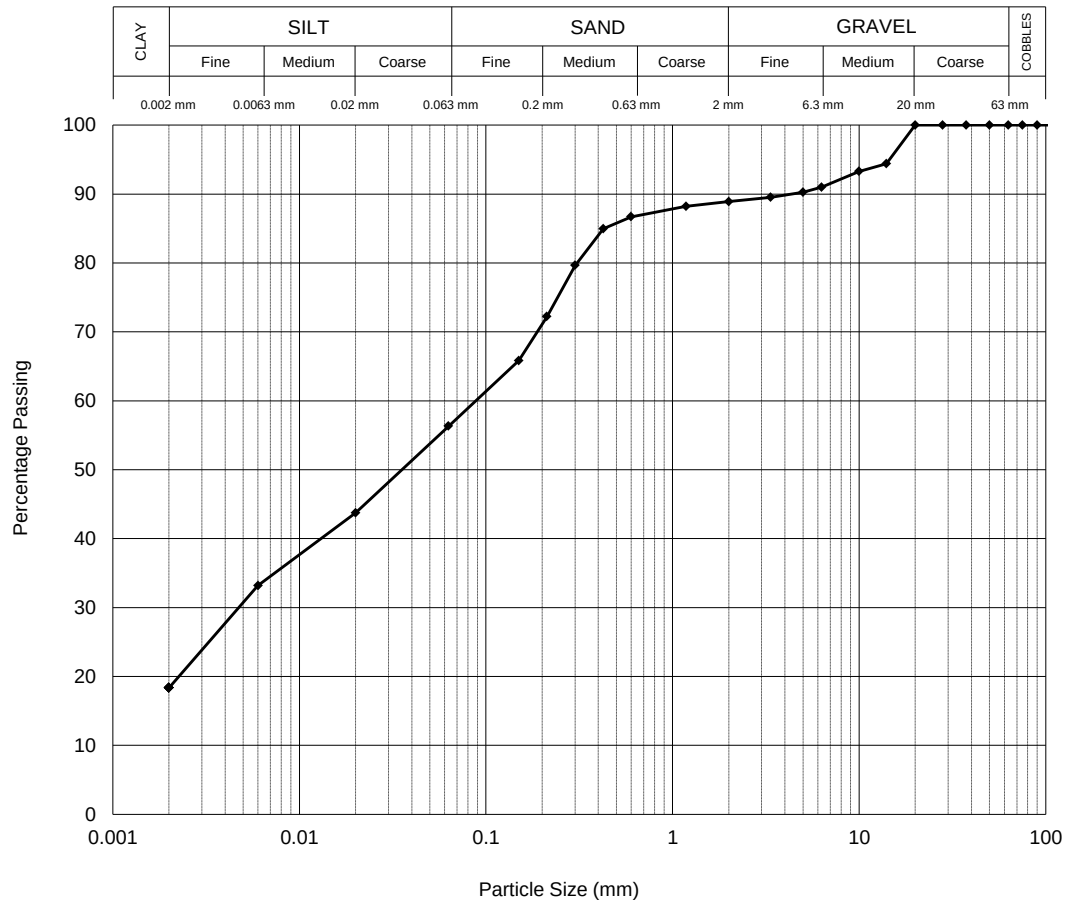
Description

Dark brown sandy silty CLAY with occasional fine to medium gravel and rare shell fragments.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	94
10.0 mm	93
6.30 mm	91
5.00 mm	90
3.35 mm	90
2.00 mm	89
1.18 mm	88
600 µm	87
425 µm	85
300 µm	80
212 µm	72
150 µm	66
63 µm	56



Sedimentation	
Pre-treatment used	
Temp (°C)	25
Size	% Pass
20 µm	44
6 µm	33
2 µm	18

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	11.1
Sand	32.6
Silt	38.0
Clay	18.3

Processed by SB
 Checked and Approved by

S Burke

S Burke - Senior Technician
 14/08/2020

Project Number:

GEO / 31470

Project Name:

SMALLMEAD, READING
6683

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PARTICLE SIZE DISTRIBUTION

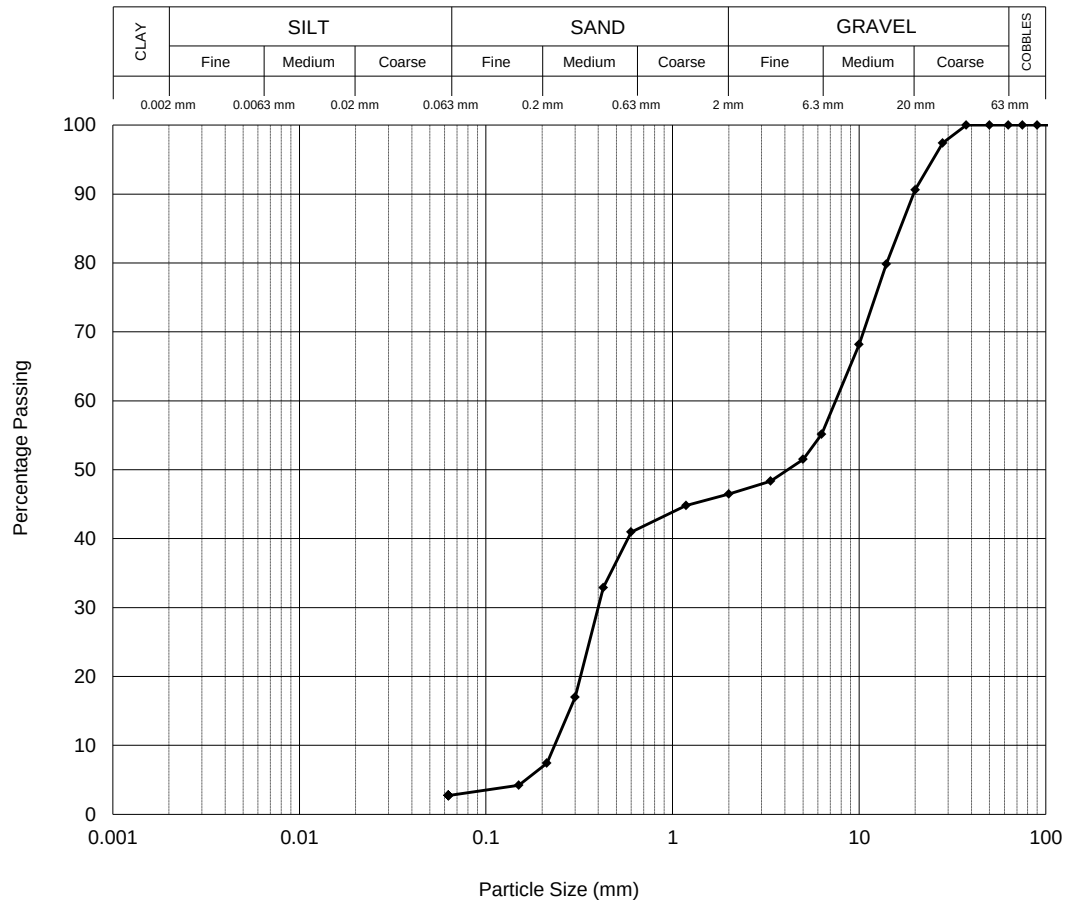
Location BH3
 Depth (m) 2.60-3.00
 Sample Type B

Description

Greyish brown very sandy GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	97
20.0 mm	91
14.0 mm	80
10.0 mm	68
6.30 mm	55
5.00 mm	52
3.35 mm	48
2.00 mm	46
1.18 mm	45
600 µm	41
425 µm	33
300 µm	17
212 µm	7
150 µm	4
63 µm	3



Particle Proportions	
Cobbles	0.0
Gravel	53.5
Sand	43.7
Silt & Clay	2.8

Processed by SB
 Checked and Approved by

S Burke

S Burke - Senior Technician
 14/08/2020

Project Number:

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SMALLMEAD, READING
6683

GEOLABS

Page 1 of 1

(Ref 1597406940)

PARTICLE SIZE DISTRIBUTION

Location BH3
Depth (m) 4.00-4.45
Sample Type U

Description

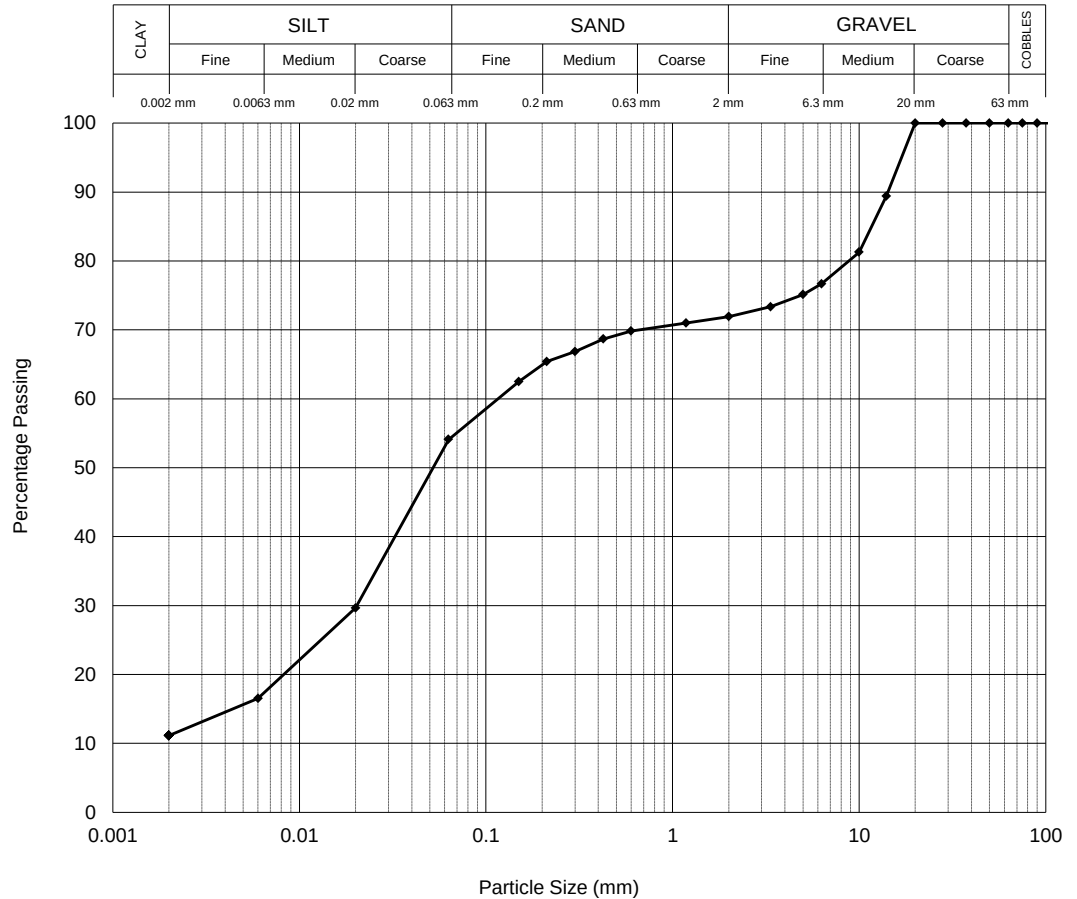
Very soft brown mottled grey sandy very gravelly silty CLAY.

Remarks Insufficient sample supplied to comply with BS EN ISO 17892-4 : 2016 minimum mass requirements

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

BS EN ISO 17892-4 : 2016 : Clause 5.4 - Sedimentation by Pipette

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	89
10.0 mm	81
6.30 mm	77
5.00 mm	75
3.35 mm	73
2.00 mm	72
1.18 mm	71
600 µm	70
425 µm	69
300 µm	67
212 µm	65
150 µm	62
63 µm	54



Sedimentation	
Pre-treatment used	
Temp (°C)	25
Size	% Pass
20 µm	30
6 µm	17
2 µm	11

Particle Density 2.70(A) Mg/m³

Particle Proportions	
Cobbles	0.0
Gravel	28.1
Sand	17.8
Silt	42.9
Clay	11.2

Processed by SB
Checked and Approved by

S Burke

S Burke - Senior Technician
14/08/2020

Project Number:

GEO / 31470

Project Name:

SMALLMEAD, READING
6683

GEOLABS

Page 1 of 1
(Ref 1597406943)

PARTICLE SIZE DISTRIBUTION

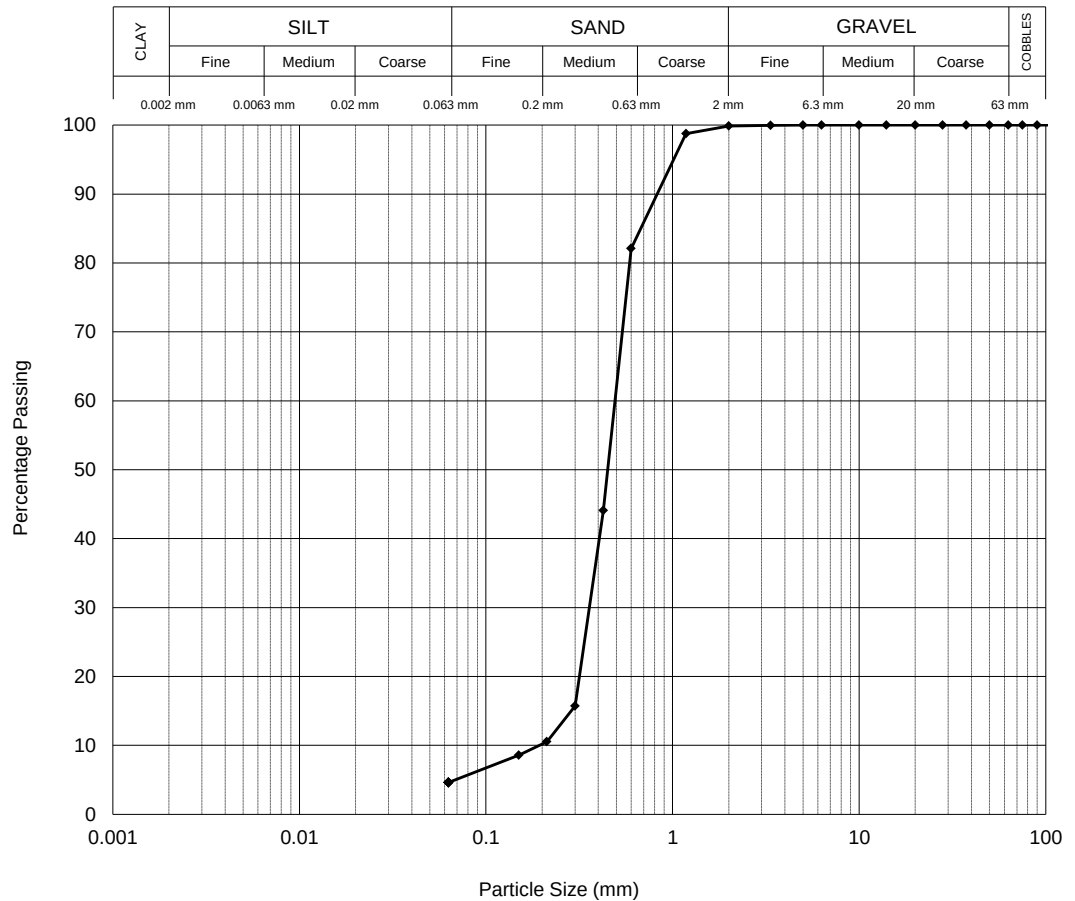
Location BH3
 Depth (m) 10.40-10.80
 Sample Type B

Description

Grey fine to medium SAND.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	100
5.00 mm	100
3.35 mm	100
2.00 mm	100
1.18 mm	99
600 µm	82
425 µm	44
300 µm	16
212 µm	11
150 µm	9
63 µm	5



Particle Proportions	
Cobbles	0.0
Gravel	0.1
Sand	95.3
Silt & Clay	4.6

Processed by SB
 Checked and Approved by

S Burke

S Burke - Senior Technician
 14/08/2020

Project Number:

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Project Name:

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6683

GEOLABS

Page 1 of 1

(Ref 1597406946)

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

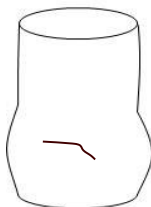
Location BH1
 Depth (m) 3.00-3.45
 Sample Type U

Description:

Very soft brownish grey very gravelly silty CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	199.2
Diameter (mm)	101.4
Moisture content (%)	21.2
Bulk density (Mg/m ³)	1.95
Dry density (Mg/m ³)	1.61
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	198.6
Membrane correction (kPa)	0.6
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	60
Strain at failure (%)	8.5
Maximum deviator stress (kPa)	26
Shear Stress Cu (kPa)	13

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

140

Processed by SB

Checked and Approved by

S Burke

S Burke - Senior Technician
 14/08/2020

Project Number:

GEO / 31470

Project Name:

**SMALLMEAD, READING
 6683**

GEOLABS



UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH3
Depth (m) 4.00-4.45
Sample Type U

Description:

Very soft brown mottled grey very gravelly silty CLAY

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	200.5
Diameter (mm)	102.6
Moisture content (%)	19.1
Bulk density (Mg/m ³)	2.04
Dry density (Mg/m ³)	1.71
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	200.0
Membrane correction (kPa)	1.1
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	80
Strain at failure (%)	19.9
Maximum deviator stress (kPa)	13
Shear Stress Cu (kPa)	7

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

190

Processed by SB

Checked and Approved by

S Burke - Senior Technician
14/08/2020

Project Number:

GEO / 31470

Project Name:

SMALLMEAD, READING
6683

GEOLABS

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

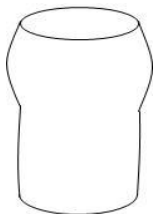
Location BH3
 Depth (m) 6.50-6.95
 Sample Type U

Description:

Firm grey silty CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	165.2
Diameter (mm)	103.2
Moisture content (%)	25.0
Bulk density (Mg/m ³)	2.20
Dry density (Mg/m ³)	1.76
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	164.8
Membrane correction (kPa)	0.9
Mean rate of shear (%/min)	2.4
Cell pressure (kPa)	130
Strain at failure (%)	14.5
Maximum deviator stress (kPa)	162
Shear Stress Cu (kPa)	81

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

250

Processed by SB

Checked and Approved by

S Burke - Senior Technician
 14/08/2020

Project Number:

GEO / 31470

Project Name:

SMALLMEAD, READING
6683

GEOLABS

		Client		Terra Firma (South)					TEST RESTRICTION	
		Project No.		31470						
		Project Name		SMALLMEAD, READING						
The following tests have been scheduled on the above project and <u>CANNOT</u> be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.										
Laboratory ID	BH / TP No.	Sample Ref.	Depth (m)		Type	Test(s) Scheduled			Reason for Restriction	Description
366306	BH2	31470	2.00	2.45	U100	TXL			Sample too short (120mm) and filled with wax	Soft brown silty very gravely CLAY.
366325	BH1		13.60	14.00	B	SMC			No suitable lumps	Grey and white structureless CHALK.
Comments / remarks										Test restriction raised by 

Annex E: Gas Monitoring Results

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading					
Job No:	6683					
Date/Time of Visit:	29/07/2020 @ 13:30					
Atmospheric Pressure (mb):	Trend	Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Rising	1016	1016	1016	1015	1012
Weather Conditions:	During Visit	Sunny / Clear				
	- 24 Hrs	Sunny spells and cloud				
Ground Conditions:	Dry					
Technician:	PS					
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020					

BH No.	Flow l/hr		Methane (CH ₄) % V/V			Carbon Dioxide (CO ₂) % V/V			Oxygen (O ₂) % V/V			Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)		
			Peak	Steady (mins)		Peak	Steady (mins)		Min	Steady (mins)				H2S	CO	VOC
BH1 (Shallow)	1	0.0	0.0	1	0.0	11.0	1	7.5	9.4	1	10.2	Dry	1.89	-	-	-
	2	0.0		2	0.0		2	9.7		2	9.6					
	3	0.0		3	0.0		3	10.6		3	9.7					
	10	-		10	-		10	11.0		10	9.4					
BH2 (Shallow)	1	0.0	0.0	1	0.0	2.8	1	2.8	14.2	1	14.5	Dry	1.61	-	-	-
	2	0.0		2	0.0		2	2.8		2	14.2					
	3	-		3	0.0		3	2.8		3	14.2					
	10	-		10	-		10	-		10	-					
BH3 (Shallow)	1	-0.2	0.0	1	0.0	6.0	1	6.0	14.1	1	15.2	Dry	1.63	-	-	-
	2	-0.2		2	0.0		2	5.8		2	14.8					
	3	-		3	0.0		3	5.6		3	14.2					
	10	-		10	-		10	5.6		10	14.1					

Notes:

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading						
Job No:	6683						
Date/Time of Visit:	11/08/2020 @ 09:30						
Atmospheric Pressure (mb):	Trend		Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Stable		1015	1015	1014	1018	1018
Weather Conditions:	During Visit	Sunny spells and cloud					
	- 24 Hrs	Partly cloudy					
Ground Conditions:	Dry						
Technician:	KS						
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020						

BH No.	Flow l/hr		Methane (CH ₄) % V/V			Carbon Dioxide (CO ₂) % V/V			Oxygen (O ₂) % V/V			Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)		
			Peak	Steady (mins)		Peak	Steady (mins)		Min	Steady (mins)				H2S	CO	VOC
BH1 (Shallow)	1	0.0	0.0	1	0.0	10.2	1	6.5	13.0	1	15.1	Dry	1.89	-	-	-
	2	0.0		2	7.5		2	14.6								
	3	0.0		3	8.9		3	13.0								
	10	-		10	-		5	13.0								
BH2 (Shallow)	1	0.0	0.0	1	0.0	5.2	1	4.9	13.4	1	13.7	Dry	1.60	-	-	-
	2	0.0		2	5.0		2	13.5								
	3	-		3	5.2		3	13.4								
	10	-		10	-		5	13.4								
BH3 (Shallow)	1	0.1	0.1	1	0.0	6.4	1	6.4	14.5	1	14.5	Dry	1.63	-	-	-
	2	0.1		2	6.4		2	14.5								
	3	-		3	6.4		3	14.5								
	10	-		10	-		10	-								

Notes:

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading					
Job No:	6683					
Date/Time of Visit:	27/08/2020 @ 14:00					
Atmospheric Pressure (mb):	Trend	Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Falling	1003	1007	1015	1000	1014
Weather Conditions:	During Visit	Rain, Overcast				
	- 24 Hrs	Partly cloudy				
Ground Conditions:	Dry					
Technician:	TB					
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020					

BH No.	Flow l/hr		Methane (CH ₄) % V/V			Carbon Dioxide (CO ₂) % V/V			Oxygen (O ₂) % V/V			Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)		
			Peak	Steady (mins)		Peak	Steady (mins)		Min	Steady (mins)				H2S	CO	VOC
BH1 (Shallow)	1	0.0	0.0	1	0.0	12.1	1	0.5	8.3	1	20.3	Dry	1.89	-	-	-
	2	0.0		2	4.2		2	16.4								
	3	0.0		3	6.6		3	14.0								
	10	-		10	-		6	8.3								
BH2 (Shallow)	1	0.0	0.0	1	0.0	0.1	1	0.1	21.1	1	21.1	Dry	1.60	-	-	-
	2	0.0		2	0.1		2	21.1								
	3	-		3	0.1		3	21.1								
	10	-		10	-		5	-								
BH3 (Shallow)	1	0.1	0.1	1	0.0	8.4	1	8.4	14.3	1	14.3	1.36	1.63	-	-	-
	2	0.1		2	8.4		2	14.3								
	3	-		3	8.4		3	14.5								
	10	-		10	-		10	-								

Notes:

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading					
Job No:	6683					
Date/Time of Visit:	03/09/2020 @ 13:30					
Atmospheric Pressure (mb):	Trend	Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Falling	1010	1010	1020	1021	1022
Weather Conditions:	During Visit	Overcast/ Partly cloudy				
	- 24 Hrs	Partly cloudy/ sun				
Ground Conditions:	Dry					
Technician:	AS					
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020					

BH No.	Flow l/hr		Methane (CH ₄) % V/V			Carbon Dioxide (CO ₂) % V/V			Oxygen (O ₂) % V/V			Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)		
			Peak	Steady (mins)		Peak	Steady (mins)		Min	Steady (mins)				H2S	CO	VOC
BH1 (Shallow)	1	-0.1	0.1	1	0.1	8.9	1	2.5	8.6	1	17.3	Dry	1.89	-	-	-
	2	-0.1		2	0.1		2	4.6		2	14.5					
	3	-0.1		3	0.1		3	6.8		3	11.5					
	10	-		10	-		6	8.9		6	8.6					
BH2 (Shallow)	1	-0.0	0.1	1	0.1	0.9	1	0.9	20.1	1	20.1	Dry	1.60	-	-	-
	2	-0.1		2	0.1		2	0.5		2	20.4					
	3	-0.0		3	0.1		3	0.4		3	20.5					
	10	-		10	-		5	0.3		5	20.6					
BH3 (Shallow)	1	-0.1	0.0	1	0.0	7.6	1	7.5	11.0	1	11.3	1.38	1.63	-	-	-
	2	-0.2		2	0.0		2	7.6		2	11.1					
	3	-0.2		3	0.0		3	7.4		3	11.0					
	10	-		10	-		10	-		10	-					

Notes:

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading					
Job No:	6683					
Date/Time of Visit:	18/09/2020 @12.15pm					
Atmospheric Pressure (mb):	Trend	Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Falling	1017	1017	1028	1023	1018
Weather Conditions:	During Visit	Sunny				
	- 24 Hrs	Partly cloudy				
Ground Conditions:	Dry					
Technician:	AS					
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020					

BH No.	Flow l/hr		Methane (CH ₄) % V/V			Carbon Dioxide (CO ₂) % V/V			Oxygen (O ₂) % V/V			Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)		
			Peak	Steady (mins)		Peak	Steady (mins)		Min	Steady (mins)				H2S	CO	VOC
BH1 (Shallow)	1	-0.0	0.0	1	0.0	0.1	1	0.1	20.1	1	20.0	Dry	1.89	-	-	-
	2	-0.0		2	0.0		2	20.1								
	3	-0.0		5	0.0		5	20.1								
	10	-		10	-		10	-								
BH2 (Shallow)	1	0.0	0.1	1	0.1	1.0	1	1.0	19.9	1	19.9	Dry	1.60	-	-	-
	2	0.0		2	0.1		2	20.0								
	3	0.0		5	0.1		5	20.1								
	10			10			5									
BH3 (Shallow)	1	0.1	0.1	1	0.1	2.9	1	2.9	17.9	1	17.9	1.45	1.63	-	-	-
	2	0.1		2	0.1		2	17.9								
	3	0.1		5	0.1		5	18.0								
	10	-		10	-		10	-								

Notes:

In Situ Gas Monitoring Pro Forma



Site:	Smallmead, Reading					
Job No:	6683					
Date/Time of Visit:	02/10/2020 @12.00pm					
Atmospheric Pressure (mb):	Trend	Finish	Start	- 24 Hrs	- 48 Hrs	- 72 Hrs
	Falling	982	982	999	1006	1015
Weather Conditions:	During Visit	Rain / stormy				
	- 24 Hrs	cloudy				
Ground Conditions:	Wet					
Technician:	AS					
Instrument:	Geotechnical Instruments Gas Analyser (GA5000) – Serial No. GS01105 Calibrated 29 th April 2020					

BH No.	Flow l/hr		Methane (CH ₄) % V/V		Carbon Dioxide (CO ₂) % V/V		Oxygen (O ₂) % V/V		Water Level (mbgl)	Well Depth (mbgl)	Other Gases (ppm)					
			Peak	Steady (mins)	Peak	Steady (mins)	Min	Steady (mins)			H2S	CO	VOC			
BH1 (Shallow)	1	-0.1	0.0	1	0.0	12.4	1	0.3	7.9	1	20.0	Dry	1.89	-	-	-
	2	-0.1		2	0.0		2	20.1								
	3	-0.1		5	0.0		5	20.1								
	10	-		10	-		10	-								
BH2 (Shallow)	1	0.0	0.1	1	0.1	0.9	1	0.9	20.5	1	20.3	Dry	1.59	-	-	-
	2	0.0		2	0.1		2	20.4								
	3	0.0		5	0.1		5	20.5								
	10			10	-		5	-								
BH3 (Shallow)	1	0.1	0.1	1	0.1	0.6	1	0.6	20.2	1	20.2	1.38	1.63	-	-	-
	2	0.1		2	0.1		2	20.3								
	3	0.1		5	0.1		5	20.5								
	10	-		10	-		10	-								

Notes: