IAN FARMER ASSOCIATES

CONWY COUNTY BOROUGH COUNCIL

BRICKWORKS, FFORDD MAELGWN, TRE MARL INDUSTRIAL ESTATE, LLANDUDNO JUNCTION, LL31 9PN

GROUND INVESTIGATION REPORT

Contract: 2230642

Date: July 2022

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Brickworks, Ffordd Maelgwn, Tre Marl Industrial Estate,
Llandudno Junction, LL31 9PN

GROUND INVESTIGATION REPORT

Carried out at

BRICKWORKS, FFORDD MAELGWN,

TRE MARL INDUSTRIAL ESTATE, LLANDUDNO JUNCTION, LL31 9PN

Prepared for

CONWY COUNTY BOROUGH COUNCIL
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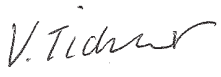	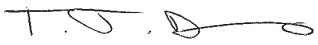	
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EXECUTIVE SUMMARY

On the instructions of Conwy County Borough Council, a ground investigation was undertaken to determine ground conditions and obtain geotechnical design information, together with a contamination risk assessment and a review of gas emissions.

The site is situated at Tre Marl Industrial Estate, approximately 5.00 km to the southeast of the town centre of Llandudno and may be located by Grid Reference SH 796 776.

The geological map indicates the southern part of the site to be underlain by superficial Tidal Flat Deposits and the northern part of the site to be underlain by superficial deposits of Glacial Till. The superficial deposits are underlain by Denbigh Grits Formation. There is a fault trending northwest to southeast along the north eastern boundary of site. Made Ground is anticipated, potentially to significant depths, due to the backfilling of former brick works excavations and landfill recorded on the site historically, together with more recent industrial development and land use. Made Ground is recorded immediately to the south and west of the site on the geological map.

The site work was carried out between the 27th January and 7th February 2022 and comprised ten cable percussion boreholes progressed to depths of up to 20.00 m below ground level (bgl), seven window sample boreholes taken to depths up to 5.00 mbgl, four machine excavated trial pits to a depth of 2.00 mbgl and one hand excavated trial pit to a depth of 1.20 mbgl. Gas and groundwater standpipes were installed in selected boreholes, ten with response zones targeting the Made Ground and six with response zones targeting the natural soil.

Made Ground was encountered in all exploratory holes extending, where proven, generally to depths of between 2.50 m and 13.90 mbgl (2.60 m to -7.70 mAOD). The Made Ground comprised both granular and cohesive material with gravels including brick, concrete, wood, plastic, glass, metal, ash, charcoal, coal, clinker, ceramics, tarmacadam, limestone, siltstone, sandstone and mudstone, and low to high cobble content including brick, concrete, timber, mudstone, siltstone and quartz. Materials consistent with landfilled waste including plastic bags, rope, cloth and larger pieces of plastic, wood and metal, were also noted. Olfactory evidence of contamination was observed within the Made Ground in the form of a slight hydrocarbon odour in BH01A, a strong sweet chemical odour (creosote) in BH03A and a strong hydrocarbon odour in BH05A.

Natural deposits were encountered beneath the Made Ground to the full depth of the investigation comprising interbedded layers predominantly of sand, gravel, silt and clay with peat also recorded in BH07.

During the site works groundwater was encountered at depths between 2.60 m and 18.00 mbgl (3.85 m to -12.13 mAOD), rising after to twenty minutes to depths between 1.70 m and 9.00 mbgl (4.35 m to -11.80 mAOD) within the Made Ground and 11.20 mbgl (-8.00 m to -12.13 mAOD) within the natural deposits. During return monitoring, groundwater levels were recorded between 0.86 m and 5.27 mbgl (6.42 m to 2.72 mAOD) within the Made Ground.

Water level data logger divers were installed in BH02A, BH04B, BH05A and BH08A on 8th February 2022 and removed from the holes on 23rd May 2022. These installations were targeted specifically to investigate what, if any, tidal influence the Conwy Estuary exerts over the water levels observed on site.

Based on this monitoring, it is considered that tidal water levels are not systematically reflected in the water levels observed in the exploratory holes.

Due to the thickness and variability of the Made Ground, it is considered that traditional shallow spread foundations would not be suitable for the proposed development.

Based on the encountered ground conditions, consideration should be given to the adoption of ground improvement measures or traditional piled foundations

The contamination assessment has indicated that pollutant linkages potentially occur with metals, PAH, TPH, cyanide and phenols impacting upon the nearby estuary to the southeast of the site and therefore, further detailed risk assessment may be required.

Potential pollutant linkages have been identified with regard to human receptors associated with asbestos within the Made Ground, though this was only found in one sample, from BH02A and 0.20 mbgl.

Given the extent of the Made Ground encountered across the site and concentrations of organic contaminants observed, it is likely that installation of barrier pipe or selection of an alternative material to plastic will be required for any proposed new water supply services.

Post site work monitoring revealed elevated methane and carbon dioxide gas, together with detectable concentrations of VOCs and SVOCs identified in the soils and groundwater beneath the site. Based on the worst-case results from the gas monitoring, the site falls within Characteristic Situation (CS) 4 indicating moderate to high risk. Therefore, the proposed development will require the installation of gas protection.

Consideration should also be given to undertaking a Detailed Quantitative Risk Assessment (DQRA) for ground gas as this may facilitate either zoning of the site or the CS of the site to be reduced.

CONTENTS

1.0 INTRODUCTION

1.1 On the instructions of Conwy County Borough Council, a ground investigation was undertaken to determine ground conditions and obtain geotechnical design information, together with a contamination risk assessment and a review of gas emissions.

1.2 It is understood that the proposed development comprises six industrial plots; four containing industrial buildings, one containing a recycling centre, and the last for use as car parking for a car dealership.

1.3 This report should be read in conjunction with the Preliminary Investigation Report (PIR), which was reported under reference 2230642-01 in June 2022.

1.4 It is recommended that a copy of this report be submitted to the relevant authorities to enable them to carry out their own site assessments and provide any comments.

1.5 This report has been prepared for the sole use of the Client for the purpose described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

1.6 The comments given in this report and the opinions expressed herein are based on the information received, the conditions encountered during site works, and on the results of tests made in the field and laboratory. However, there may be conditions prevailing at the site which have not been disclosed by the investigation and which have not been taken into account in the report.

1.7 The comments on groundwater conditions are based on observations made at the time the site work was carried out. It should be noted that groundwater levels vary owing to seasonal or other effects.

2.0 SITE SETTING

2.1 Site Location

2.1.1 The site is situated on the Tre Marl Industrial Estate, approximately 5.00 km to the southeast of the town centre of Llandudno and may be located by Grid Reference SH 796 776.

2.1.2 A site location plan is included in Appendix 1, Figure A1.1.

2.2 Site Description

2.2.1 The site is roughly triangular in shape, occupies an area of approximately 3.55 hectares (Ha), and is situated at an approximate altitude of 7 m to 8 mAOD.

2.2.2 At the time of the investigation the site comprised multiple commercial units with a central asphalt surfaced road. The north western and southern parts of the site were surrounded by a vegetated earth bund. Uses of the buildings on the site included a commercial recycling centre, plant storage, a traffic management depot and a welfare and storage cabin warehouse. The units contained machinery with tanks and structures housing fuel, oil and cleaning products. The central northern unit comprised large stockpiles of waste.

2.3 Site History

2.3.1 A review of available historical maps undertaken within the PRA revealed that the site historically formed part of a brick works originally located across the southern boundary of site with an excavation to the north, which expanded to encompass the remaining area of site and beyond the site boundaries to the north and west by circa 1953.

2.3.2 A survey of the pit, dated 1977, provided in the tender documentation indicates a maximum depth about 15.00 m decreasing to about 5.00 m towards the perimeter. This survey indicates the pit to be flooded to full depth.

2.3.3 The excavated area of the site was indicated as a pond by c. 1960, with the western boundary known to have been used as a landfill during the 1970s. From 1990, all of the buildings related to the brick works were removed and the site fully backfilled for the development of industrial units with the central northern unit identified as a recycling centre.

2.3.4 The surrounding land has primarily been used in association with two railway lines to the north and southwest of site.

2.3.5 The industrial estate has subsequently expanded towards the eastern site boundary and the railway buildings to the west have been demolished and replaced by a cinema and fast food establishments.

2.4 Geological Setting

2.4.1 Details of the geology underlying the site have been obtained from the relevant geological map of the area, ref. 9.2, and from the British Geological Survey web based geological records (contains British Geological Survey materials © UKRI 2022).

2.4.2 The geological map indicates the south of the site to be underlain by superficial Tidal Flat Deposits, comprising clay, silt, and sand. The north of the site is indicated to be underlain by superficial deposits of Glacial Till, predominantly comprising clay.

2.4.3 The superficial deposits are underlain by the Denbigh Grits Formation, briefly described as mudstone, siltstone, and sandstone.

2.4.4 There is a fault trending northwest to southeast along the north eastern boundary of site.

2.4.5 Although not indicated as present from the geological maps, Made Ground is anticipated, potentially to significant depths, due to the backfilling of former brick works excavations and landfill recorded on the site historically, together with more recent industrial development and land use. Made Ground is recorded immediately to the south and west of the site on the geological map.

2.4.6 A BGS recorded borehole immediately to the south of the site, reference SH77NE368, indicated Made Ground to a depth of 2.00 m below ground level (bgl) (3.69 mAOD), over clay to 4.00 mbgl (1.69 mAOD), over soft slightly sandy clay with gravels and cobbles (interpreted as Irish Boulder Clay) to 21.50 mbgl (-15.81 mAOD). Beneath this, soft laminated silty clay with sand and gravel was recorded to 25.00mbgl (-19.31 mAOD), over coarse sand and fine to medium gravel to the end of the borehole at 28.00 mbgl (-22.31 mAOD). Groundwater was encountered at depths of 2.00 mAOD), and was subsequently monitored at depths of between 3.00 mbgl (2.69 mAOD) and 17.50 mbgl (-11.81 mAOD).

3.0 SITE WORK

3.1 The site work was carried out between the 27th January and 7th February 2022 on the basis of the practices set out in BS 10175, ref. 9.4, BS 5930 ref. 9.5 and BS EN 1997-2, ref. 9.6.

3.2 The positions of the exploratory holes were proposed by Conwy CC to provide general coverage of the site in relation to the proposed development. Existing structures were present at the time of the investigation and therefore, exploratory locations were not undertaken within these areas.

3.3 Exploratory holes were carried out as follows:

Exploratory Hole Type	Quantity	Hole Reference	Depths (mbgl)	Notes
Cable Percussive Boreholes	9	BH01A, BH02A, BH03A, BH04A & BH04B, BH05A to BH08A	1.30 to 20.45	None
Window Sample Boreholes	8	BH01B, BH01BA, BH02B, BH03B, BH05B to BH08B	1.65 to 5.45	None
Trial Pits – Machine Excavated	4	TP01 to TP04	2.00	None
Trial Pits – Hand Excavated	1	HP01C	1.20	None
Slotted Standpipe Installations	10	BH01BA, BH02B, BH03B, BH04A, BH05A, BH05B, BH06A, BH06B, BH07B, BH08B	From between 0.60 and 4.00 to between 1.60 and 12.00	Installed into the Made Ground, predominantly to monitor gas levels, each with gas valve and flush cover fitted.
	6	BH01A, BH02A, BH03A, BH04B, BH07A, BH08A	From between 5.00 and 13.50 to between 14.00 and 20.00	Installed into the natural soil, predominantly to monitor groundwater levels, each with gas valve and flush cover fitted.

3.4 The positions of the exploratory holes are shown on the exploratory hole location plan, Appendix 1, Figure A1.3.

3.5 The depths of the exploratory holes, descriptions of strata encountered and comments on groundwater conditions are given in the site work records in Appendix 2.

3.6 Photographic records of the machine excavated trial pits are also given in Appendix 2.

3.7 'Clean' drilling methods were adopted through the Made Ground or obviously contaminated strata. The boreholes were cased through this material and a bentonite plug installed at the base of the casing before continuing in a reduced diameter.

3.8 Representative disturbed and 'undisturbed' samples were taken, ref. 9.9, at the depths shown on the exploratory hole records and dispatched to the laboratory for examination and testing.

3.9 Samples for environmental purposes were collected in appropriate containers, placed in a cool box, and dispatched to immediately to UKAS accredited laboratory for testing.

3.10 Standard penetration tests (SPT), ref. 9.7, were carried out in the boreholes in the various strata to assess the relative density or consistency. The values of penetration resistance are given in the borehole records.

3.11 A number of samples recovered during the boring and trial pitting works were screened for volatile organic compounds (VOCs) using a photo ionisation detector (PID). The results of these tests are included in the exploratory hole records.

3.12 The co-ordinates and ground levels at the exploratory hole locations were surveyed based on OS National Grid and Ordnance datum. These values are reported on the borehole and trial pit records and tabulated in the site work records in Appendix 2.

3.13 Upon completion of the site works, the boreholes instrumented with standpipes were monitored on six occasions for groundwater and gas levels. Some of the visits were undertaken over more than one day. The gas levels monitored were oxygen, carbon dioxide, methane, carbon monoxide and hydrogen sulphide. The flow rate of each borehole was also monitored. Concentrations of total volatile organic compounds (VOCs) were measured using a photo ionisation detector (PID). The results are given in Appendix 7.

3.14 Groundwater data logger divers were installed in four boreholes and data acquired over a period about 3 months.

3.15 Groundwater samples from the borehole instruments were recovered and dispatched for testing on one occasion, the results of which are presented in Appendix 4. The wells were developed a minimum of two weeks prior to sampling and groundwater quality measurements were taken as the groundwater was being purged, the results of which are given in Appendix 7.

4.0 LABORATORY TESTS

4.1 Geotechnical Testing

4.1.1 The suite of geotechnical analyses has been scheduled by IFA based upon the ground conditions encountered during site work and the proposed development.

4.1.2 All soil samples were prepared in accordance with BS1377: Part One: 1990 ref. 9.12 and representative sub-samples were taken for testing. The following tests were carried out:

- 9 No. Moisture contents
- 9 No. Plasticity indices
- 5 No. Particle size distributions by wet sieving
- 3 No. Particle size distributions by sedimentation
- 14 No. BRE Suite D
- 4 No. Single stage undrained triaxial
- 1 No. Oedometer consolidations

4.1.3 The results of the testing are given in Appendix 3, Test Reports 2230642/1, 22/01820.

4.2 Chemical Testing

4.2.1 The suite of chemical analyses has been scheduled by IFA based upon the findings of the desk study, to investigate the potential sources of contamination identified in the conceptual model. The chemical analyses were carried out on twenty-three samples of soil, eighteen of which were representative of the Made Ground encountered and five of which were representative of the natural soil, and five groundwater samples. Leachate analysis was also conducted on ten samples prepared from soils, all of which were from the Made Ground.

4.2.2 The nature of the soil analyses is detailed below:

- 23 No. Metals suites – arsenic, barium, beryllium, cadmium, chromium (total and hexavalent), copper, lead, manganese, mercury, molybdenum, nickel, selenium, vanadium, zinc
- 13 No. Boron (water soluble)
- 23 No. Total petroleum hydrocarbons (TPH) – CWG bandings
- 23 No. Polycyclic aromatic hydrocarbons (PAH) – USEPA 16 suite
- 23 No. Phenols – total
- 23 No. Volatile organic compounds (VOC)
- 23 No. Semi-volatile organic compounds (VOC)
- 23 No. Cyanide – free and total
- 23 No. pH
- 23 No. Soil organic matter (SOM)

- 8 No. Asbestos screens
- 1 No. Asbestos quantification

4.2.3 The nature of the leachate analyses is detailed below:

- 5 No. Metals suites – arsenic, barium, beryllium, boron, cadmium, chromium (total and hexavalent), copper, lead, manganese, mercury, molybdenum, nickel, selenium, vanadium, zinc
- 5 No. Total petroleum hydrocarbons (TPH) – CWG bandings
- 5 No. Polycyclic aromatic hydrocarbons (PAH) – USEPA 16 suite
- 5 No. Phenols – total
- 5 No. Volatile organic compounds (VOC)
- 5 No. Semi-volatile organic compounds (SVOC)
- 5 No. Cyanide – free and total
- 5 No. pH
- 5 No. Dissolved organic carbon (DOC)
- 5 No. Calcium (hardness)

4.2.4 The nature of the groundwater analyses is detailed below:

- 11 No. Metals suites – arsenic, barium, beryllium, boron, cadmium, chromium (total and hexavalent), copper, lead, manganese, mercury, molybdenum, nickel, selenium, vanadium, zinc
- 11 No. Total petroleum hydrocarbons (TPH) – CWG bandings
- 11 No. Polycyclic aromatic hydrocarbons (PAH) – USEPA 16 suite
- 11 No. Phenols – total
- 11 No. Volatile organic compounds (VOC)
- 11 No. Semi-volatile organic compounds (VOC)
- 11 No. Polychlorinated biphenyls (PCB)
- 11 No. Cyanide – free and total
- 11 No. pH
- 11 No. Dissolved organic carbon (DOC)
- 11 No. Calcium (hardness)

4.2.5 The testing was carried out in accordance with the MCERTS performance standard, ref. 9.18, where available, and the results are shown in Appendix 4, Test Reports 22/00781, 22/00819, 22/00970, 22/01285, 22/01332, 22/03543 and 22/03695.

5.0 GROUND CONDITIONS ENCOUNTERED

5.1 Sequence

5.1.1 The sequence of the strata encountered during the investigation generally reflects the anticipated geology as interpreted from the geological map and site history. Bedrock was not encountered during the investigation.

5.1.2 Interpolation of strata depths between locations should be undertaken with caution, particularly for depths of Made Ground where structures are still present at the time of the investigation.

5.1.3 The sequence and indicative thicknesses of strata are provided below:

Strata Encountered	Depth Encountered (mbgl)		Strata Thickness (m)
	From	To	
Made Ground	0.00	2.50 to 13.90	2.50 to 13.90
Tidal Flat Deposits (BH07A)	3.50	8.80	5.30
Glacial Deposits	2.50 to 13.90	>20.00	>4.60 to >17.50

5.2 Made Ground

5.2.1 Made Ground was encountered in all exploratory holes and extended, where proven in the cable percussion boreholes, generally to depths of between 10.30 m and 13.90 mbgl (-2.23 m to -7.70 mAOD), though shallower depths of 3.50 m and 2.50 mbgl (2.60 m to 1.87 mAOD) were proven in BH07A and BH08A respectively. BH07A and BH08A were located outside the recorded boundary of the former brick pit whereas the remaining boreholes, where the base of the Made Ground was proven, were located within the boundary of the former brick pit.

5.2.2 The full depth of the Made Ground was unproven in BH04A and all of the window sample borehole and trial pit locations at depths of between 1.20 m and 10.10 mbgl. BH01B was also terminated within the Made Ground at a depth of 1.30 mbgl due to encountering a concrete obstruction and BH07B was terminated at 1.70 mbgl due to refusal of the window sampler on an obstruction. Further obstructions were recorded in BH04A between 3.30 m and 5.40 mbgl and BH04B between 3.50 m and 4.50 mbgl due to concrete, and in BH01A at 9.10 mbgl due to timber.

5.2.3 In HP01C, topsoil composed of soft, brown, sandy clay with frequent rootlets was encountered to 0.10 mbgl. A hard 0.10 m thick surfacing of tarmacadam was encountered in BH05A, BH05B, BH07A and BH07B.

5.2.4 The remainder of the Made Ground comprised both granular and cohesive material. The granular material predominantly comprised brown, grey or black, sandy, occasionally clayey, angular to subangular, fine to coarse gravel

or gravelly, occasionally silty fine to coarse sand. The cohesive material predominantly comprised very soft to firm, brown, grey or black, sandy, gravelly clay or silt.

5.2.5 Gravels within the Made Ground included brick, concrete, wood, plastic, glass, metal, ash, charcoal, coal, clinker, ceramics, tarmacadam, limestone, siltstone, sandstone and mudstone, with low to high cobble content including brick, concrete, timber, mudstone, siltstone and quartz. Materials consistent with landfilled waste including plastic bags, rope, cloth and larger pieces of plastic, wood and metal, were also noted.

5.2.6 A hessian geo-textile membrane was encountered within the Made Ground in BH02B and TP01 to TP04 at depths of between 0.23 m and 0.26 mbgl.

5.2.7 Olfactory evidence of contamination was observed within the Made Ground in the form of a slight hydrocarbon odour in BH01A between 1.90 m and 10.00 mbgl, a strong sweet chemical odour (creosote) in BH03A between 4.00 m and 10.00 mbgl, and a strong hydrocarbon odour in BH05A between 2.00 m and 10.40 mbgl.

5.3 Tidal Flat Deposits

5.3.1 Material considered to represent Tidal Flat Deposits was encountered beneath the Made Ground in BH07A.

5.3.2 In BH07A between 3.50 m and 8.80 mbgl, soft to very soft, bluish grey silt and peat was encountered. The peat was generally described as very soft to firm fibrous and pseudofibrous with large amounts of undecomposed wood and a strong organic odour.

5.4 Glacial Deposits

5.4.1 The majority of the natural strata encountered beneath the site is considered to represent either Glacial Deposits that have been sub-divided into Glacial Till and Glacial Sand and Gravel.

5.4.2 These strata were encountered beneath Made Ground at depths in the overall range 2.50 to 13.90 m and below Tidal Flat Deposits in BH07A at a depth of 8.80 m.

5.4.3 Glacial Till was encountered beneath made ground in BH02A, BH03A, BH04B, BH05A, BH06A and BH08A. These strata generally comprised slightly gravelly clay with subordinate horizons of silt and sand.

5.4.4 Glacial Sand and Gravel was encountered beneath made ground in BH01A at a depth of 10.30 m else below Glacial Till at depths between 15.10 and 19.00 m. These strata generally comprised sandy gravel.

5.4.5 The base of the Glacial Deposits were not proven at depths up to 20.45 m.

5.5 Groundwater

5.5.1 During the site works groundwater was encountered in BH01A, BH03A, BH04A, BH04B, BH05A, BH5B, BH06A, BH07A and BH08A.

5.5.2 The majority of the groundwater strikes were recorded within the Made Ground. The deeper strikes in BH03A, BH04B, BH05A and BH06A were recorded within the natural deposits, though rose to depths within the Made Ground after twenty minutes. The deeper strikes within BH07A and BH08A were within the natural deposits.

5.5.3 A summary of the groundwater encountered during the site works is provided below:

Location	Depth (mbgl)		Depth (mAOD)	
	Encountered	Rose To (After 20 Minutes)	Encountered	Rose To (After 20 Minutes)
BH01A	10.30	5.40	-2.23	2.67
BH03A	16.90	9.00	-9.25	-1.35
BH04A	7.90	4.00	-0.52	3.38
BH04B	3.50	3.00	3.85	4.35
	15.10	4.00	-7.75	3.35
BH05A	5.50	5.00	1.58	2.08
	16.60	5.00	-9.52	2.08
BH05B	5.00	2.85	2.14	4.29
BH06A	6.00	5.50	0.20	0.70
	18.00	5.00	-11.80	1.20
BH07A	2.60	1.70	2.77	3.67
	17.50	11.20	-12.13	-5.83
BH08A	13.10	11.20	-8.00	-6.10

5.5.4 Water was added to boreholes during drilling that may have obscured groundwater strikes.

5.5.5 A summary of the groundwater levels recorded in the borehole standpipes by manual measurement during the subsequent return monitoring is provided below:

Location	Depth (mbgl)		Depth (mAOD)	
	From	To	From	To
BH01A	5.07	5.32	3.00	2.75
BH01BA	1.76	2.14	6.42	6.04
BH02A	4.84	5.09	3.04	2.79
BH02B	2.16	2.34	5.79	5.61
BH03A	4.72	4.94	2.93	2.71
BH03B	1.87	2.37	5.78	5.28
BH04A	2.64	Dry	4.74	-
BH04B	2.93	4.26	4.42	3.09
BH05A	2.72	2.92	4.36	4.16
BH05B	2.48	2.85	4.66	4.29
BH06A	1.75	1.95	4.45	4.25
BH06B	1.74	1.87	4.40	4.27
BH07A	2.18	2.38	3.19	2.99
BH07B	1.50	Dry	3.96	-
BH08A	0.92	2.38	4.18	2.72
BH08B	0.86	1.05	4.20	4.01

5.5.6 The water encountered during sitework and subsequent monitoring suggests deeper confined or semi confined groundwater within the coarse Glacial soils with localised perching or seepages within made ground.

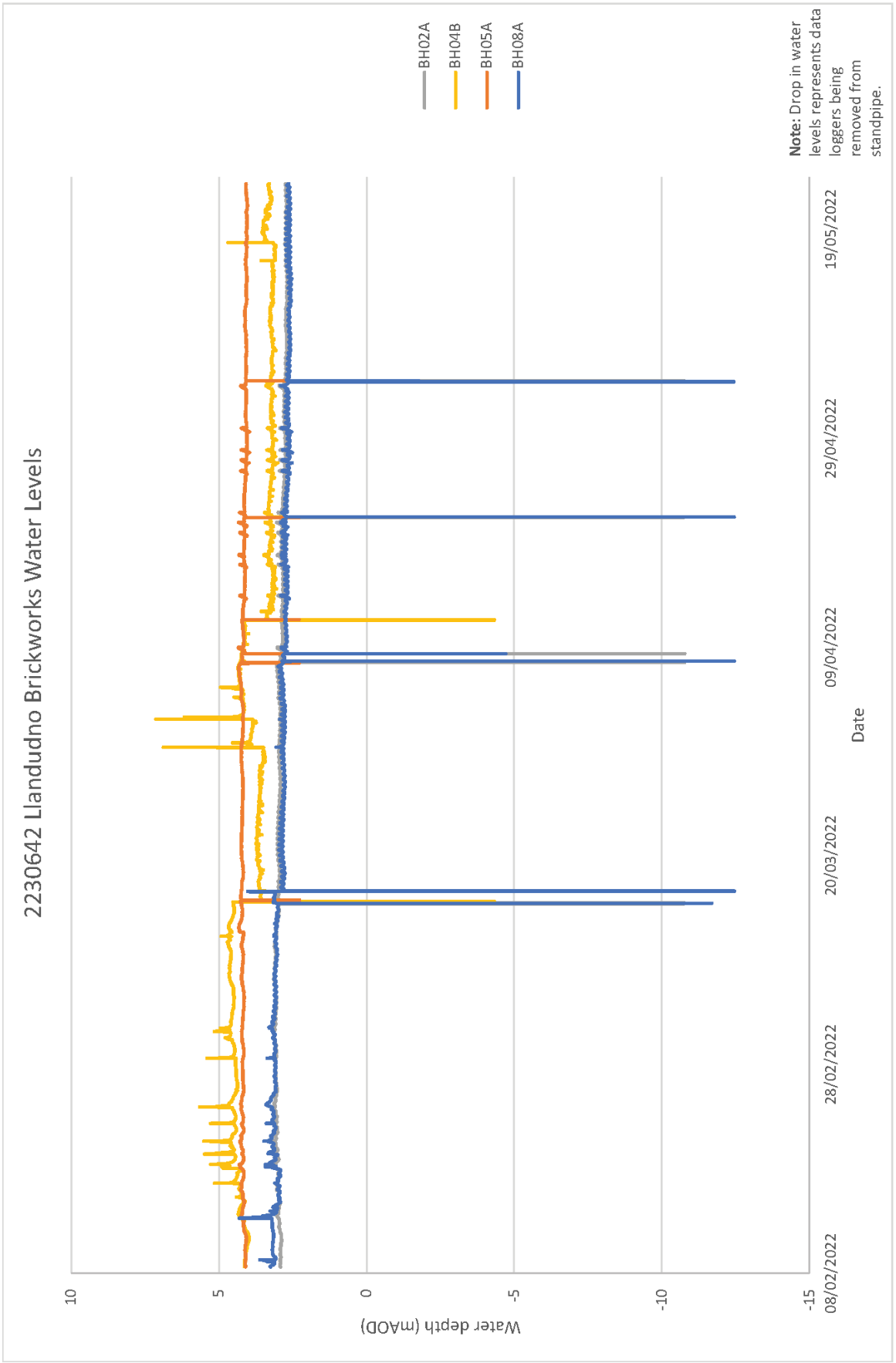
5.5.7 Water level data logger divers were installed in BH02A, BH04B, BH05A and BH08A on 8th February 2022.

5.5.8 These installations were targeted specifically to investigate what, if any, tidal influence the Conwy Estuary exerts over the water levels observed on site.

5.5.9 The groundwater levels in each of the standpipes was subsequently monitored and divers downloaded on each monitoring visit following completion of the site work. The result of the monitoring is included within Appendix 3.

5.5.10 The water data loggers were removed from the holes on 23rd May 2022.

5.5.11 A summary plot of water level (corrected to mAOD) vs. time for each water data logger is presented below. Isolated readings, outside the general trend, at very low elevations occur when the divers are accessed for maintenance and data download.


2230642 Llandudno Brickworks Water Levels
BH02A
BH04B
BH05A
BH08A
Note: Drop in water levels represents data loggers being removed from standpipe.
Water depth (mAOD)
10
5
0
-5
-10
-15
08/02/2022
28/02/2022
20/03/2022
09/04/2022
29/04/2022
19/05/2022
Date

5.5.12 During the monitoring period, the tidal range in the Conwy area was up to about 7.80 m for spring tides down to about 2.40 m for neap tides.

5.5.13 The data from BH02A, BH05A and BH08A shows water levels remaining relatively constant across the entire monitoring period.

5.5.14 Data from BH04B indicates the greatest variation in water level. However, this variation is not on the order of that seen in the tides.

5.5.15 Based on this monitoring, it is considered that tidal water levels are not systematically reflected in the water levels observed in the exploratory holes.

6.0 GEOTECHNICAL ASSESSMENT

6.1 Introduction

6.1.1 The intention of this assessment is to determine the geotechnical properties of the strata encountered, and to review their influence on the ground engineering options for the proposed development.

6.2 Proposed Development

6.2.1 It is understood that the proposed development consists of six industrial plots: four containing industrial buildings, one containing a recycling centre, and the last for use as car parking for a car dealership.

6.2.2 The proposed development layout is indicated on Figure A1.3 in Appendix 1.

6.2.3 For the purpose of this assessment, it has been assumed that portal frame-type structures will be erected on site

6.2.4 Structural details were not available at the time of preparation of this report; therefore, the following recommendations fall outside of the Eurocode 7 legislation.

6.2.5 Comments and recommendations should be reviewed, and may require amending, when development layouts and structural loads have been finalised.

6.3 Assessment of Soil Condition

6.3.1 Bedrock was not encountered during the investigation.

6.3.2 The engineering parameters for the materials encountered have been based on the engineering descriptions, in-situ and laboratory tests, published data, and correlated with professional judgement.

6.3.3 Within the cohesive materials, values such as c_u and m_v may be made with reasonable confidence based on work carried out by Stroud, ref. 9.23, and Stroud and Butler, ref. 9.24.

6.4 Made Ground

6.4.1 The Made Ground encountered on the site was both granular and cohesive in nature with cohesive material being dominant. The granular material predominantly comprised brown, grey or black, sandy, occasionally clayey, angular to subangular, fine to coarse gravel or gravelly, occasionally silty fine to coarse sand. The cohesive material predominantly comprised very soft to firm, brown, grey or black, sandy, gravelly clay or silt. Disturbed and undisturbed samples were recovered, and in-situ testing was carried out within this material.

6.4.2 Below is a summary of the geotechnical parameters for the Made Ground derived from the investigation:

	Minimum	Maximum
Layer Thickness (m)	2.50	13.90
Moisture Content (%)	6.70	23.70
Plasticity Index (%)	10.0	24.0
SPT 'N' value (uncorrected) in fine soils	0	>50
SPT 'N' value (uncorrected) in coarse soils	2	>50

6.4.3 Atterberg limit tests on cohesive Made Ground material classified four samples as low plasticity clay (CL), one sample as intermediate plasticity clay (CI), and one sample as being intermediate plasticity silt (MI).

6.4.4 The plasticity index test results indicate that both clay and silt are of low volume change potential and the silt to be of low volume change potential as defined by the National House Building Council, ref 9.25. Changes in moisture content may result in small changes in volume, seasonal changes being exacerbated by the presence of trees. It is recommended that for design purposes, low volume change potential should be adopted.

6.4.5 The wide range of SPT N values within the made ground indicate highly variable materials with respect to relative density and strength. The highest values may represent obstructions and may not be a reflection of the relative density or strength of the made ground.

6.5 Tidal Flat Deposits

6.5.1 These strata were encountered in BH07A between 3.50 m and 8.80 mbgl and comprised soft to very soft, bluish grey silt and peat. The peat was described generally as very soft to firm fibrous and pseudofibrous with large amounts of undecomposed wood and a strong organic odour.

6.5.2 Below is a summary of the geotechnical parameters derived from the laboratory and in-situ testing for the Tidal Flat Deposits during the investigation:

	Minimum	Maximum
Layer Thickness (m)	5.30	n/a
Moisture Content (%)	51.9	n/a
Liquid Limit (%)	59	n/a
Plasticity Index (%)	23	n/a

	Minimum	Maximum
SPT 'N' value (uncorrected)	4	9
Derived Undrained Shear Strength, c_u (kPa) from SPT N values in cohesive soils	20	45

6.5.3 Atterberg limit tests classified one sample taken from the Peat in BH07A returned a plasticity index of 23% and a liquid limit of 59%, therefore classifying the material as high plasticity silt (MH). A natural water content of 59.1% was also recorded on this sample consistent with a high organic content.

6.6 Glacial Deposits

6.6.1 The deposits considered to represent Glacial Till were generally described as soft, brown, sandy silt; and soft to firm, brown or reddish brown, slightly gravelly and/or slightly sandy to sandy clay with sub-ordinate sand layers.

6.6.2 Glacial Sand and Gravel was also encountered generally comprising sandy gravel.

6.6.3 Below is a summary of the geotechnical parameters derived from the laboratory and in-situ testing for the Glacial Till deposits during the investigation:

	Minimum	Maximum
Layer thickness (m)	4.00	14.00
Moisture Content (%)	4.60	16.50
Liquid Limit (%)	27	30
Plasticity Index (%)	12	14
SPT 'N' value (uncorrected) – Coarse soils	0	21
SPT 'N' value (uncorrected) – Fine soils	9	48
Undrained Shear Strength, c_u (kPa)	25	95
Compressibility, m_v (m^2/MN)	0.11	n/a

6.6.4 The plasticity index test results indicate the clay to be of low plasticity and of low volume change potential as defined by the National House Building Council, ref 9.25. Changes in moisture content may result in small changes in volume, seasonal changes being exacerbated by the presence of trees. It is recommended that for design purposes, low volume change potential should be adopted.

6.6.5 The lower bound SPT N value of 0 was obtained in BH05A at a depth of 16.50 m. A water strike was recorded at 16.60 m rising to 5.00 m in 20 minutes. A boundary between clay and underlying sand was recorded coincident with the water strike at 16.60 m. It is considered that this low SPT value is due to the water strike and does not represent the relative density of the sand stratum.

6.6.6 SPT N values in fine soils ranged from 9 to 48. Two values, 9 and 35 were recorded in silt. Twenty values between 9 and 48 were recorded within clay.

6.6.7 On the basis of the plasticity, the empirical Cu value of 5N, ref.9.24, has been assumed for deriving shear strengths. On this basis un-drained shear strength in the range 45 to 240 kPa may be derived.

6.6.8 Engineering field descriptions of the material indicate consistencies of firm and stiff, which correlates well with the derived values from the laboratory and in-situ tests.

6.6.9 Laboratory consolidation testing was undertaken on one sample (BH08A at 5.00 m) indicates coefficient of volume compressibility, m_v, of 0.11 m^2/MN for applied loads of 100 kPa above overburden pressure.

6.7 Foundation Recommendations

6.7.1 On the basis of the above assessment, in particular the thickness and variability of the Made Ground, it is considered that traditional shallow spread foundations would not be suitable for the proposed development.

6.7.2 Total and differential settlement may be considered as the main geotechnical risk for the site and should be considered carefully when deciding upon a foundation solution.

6.7.3 Based on the encountered ground conditions, consideration should be given to the adoption either ground improvement, with associated load transfer platform, or piling to support significant structures.

6.7.4 The carrying capacity of piles depends not only on their size and the ground conditions but also on their method of installation. Pile design and installation are continuously evolving processes and state-of-the-art techniques are often employed before they reach the public domain, perhaps several years down the line. Therefore, it is recommended that specialist Piling Contractors be contacted as to the suitability and carrying capacity of their piles in the ground conditions pertaining to the site.

6.7.5 It should be noted that groundwater was present which could affect the installation of the piles.

6.7.6 More detailed analysis should be carried out by a suitably qualified ground improvement contractor or piling contractor, depending on the chosen foundation solution, once structural loads are available.

6.7.7 Piles or ground improvement should be designed to minimise the risk of creating ground gas migration pathways.

6.7.8 Lightly loaded structures that are not sensitive to settlements, for example in the area of the Plot 1 Waste Transfer Station, may be placed on suitably reinforced raft foundations at shallow depths.

6.8 Ground Floor Slabs

6.8.1 On the basis of observation on site together with the results of laboratory tests and gas monitoring data (as discussed in Section 7.6), ground bearing floor slabs may not be suitable, and suspended ground floor slabs may be required.

6.8.2 Adoption of a suspended ground floor slab would allow multiple gas protection measures to be incorporated into the slab design.

6.9 Excavations

6.9.1 On the basis of observations on site, together with the results of in-situ and laboratory tests, it is considered that excavations to less than 1.20 m should stand unsupported in the short term. Side support for safety purposes should of course be provided to all excavations which appear unstable, and those in excess of 1.20 m deep, in accordance with Health and Safety Regulations, ref. 9.31.

6.9.2 Conventional mechanical plant should be suitable for any excavations at the site. Required as part of the construction. Vertical sided excavations where man entry is required will need support. Excavations should be designed and constructed in accordance with Health and Safety requirements.

6.9.3 As previously indicated in Section 5.5 groundwater was encountered within the Made Ground at depths of between 2.60 m and 5.50 mbgl and high-water levels were also recorded in the standpipes at depths of between 0.86 m and 5.07 mbgl.

6.9.4 It is anticipated than unless sand beds/pockets are encountered within the Made Ground during excavations for foundations/services significant groundwater entry should not be encountered.

6.9.5 If groundwater is encountered in shallow excavations as perched water in the Made Ground, then conventional sump pumping should be adequate to control groundwater entries.

6.9.6 Filters are recommended if pumping takes place from fine grained soils to minimise potential ground loss through removal of fines. Reference should be made to CIRIA Report C515, ref 9.32, for recommendations concerning groundwater.

6.9.7 Groundwater could be expected in excavations taken to depths in excess of 1.50 m.

6.10 Chemical Attack on Buried Concrete

6.10.1 The site has been classified in accordance with BRE Special Digest 1, ref. 9.36, brownfield that contains pyrite and laboratory testing undertaken accordingly. It is recommended that the guidelines given in Special Digest 1 be adopted.

6.10.2 The results of chemical tests in Made Ground indicate a sulphate concentration in the soil of between 29 mg/l and 340 mg/l as a 2:1 water/soil extract, a total sulphate concentration of between 0.02% and 0.12% and total sulphur of between 0.02% and 0.31%, with pH values in the range of 8.30 to 8.85.

6.10.3 The results of chemical tests in Glacial Till indicate a sulphate concentration in the soil of between 47 mg/l and 1700 mg/l as a 2:1 water/soil extract, a total sulphate concentration of between 0.03% and 0.57% and total sulphur of between 0.04% and 2.86%, with pH values in the range of 7.62 to 9.70.

6.10.4 It should be noted that the sample from BH07A at 5.00 m reported the lowest pH (7.62) and highest concentrations of all other determinants.

6.10.5 It is recommended that the groundwater should be regarded as mobile.

6.10.6 Characteristic values for each strata have been derived from laboratory results for pH, 2:1 water/soil extract (WS), total (acid) soluble sulphate (AS), equivalent Total Potential Sulphate (TPS) and Oxidisable Sulphate (OS), and are presented in the table below, together with Design Sulphate Class and the ACEC Class: -

Stratum	pH	WS (mg/l)	AS (%)	TPS (%)	OS (%)	Groundwater Condition	DS	AC
Made Ground	8.4	221	0.09	0.364	0.309	Mobile	2	2
Glacial Deposits*	8.0	218	0.048	0.534	0.486	Mobile	2	2
Peat (BH07A)	7.6	1700	0.57	8.58	8.01	Mobile	5	5
*BH07A at 5.00m sample excluded from characteristic values								

6.10.7 Values for OS greater than 0.30% indicate that pyrite is present and may be oxidised to sulphate where the ground is disturbed.

6.10.8 Based on the above, it is considered that a Design Sulphate Class of DS-2 with AC-2 would be appropriate for the majority of the site. Should foundations be positioned in the area of BH07A, a Design Sulphate Class of DS-5 with AC-5 would be appropriate.

7.0 GEOENVIRONMENTAL RISK ASSESSMENT

7.1 Contaminated Land

7.1.1 The definition of 'contaminated land', along with the relevant details on legislation and guidance is set out in Appendix 6.

7.2 Site History

7.2.1 A review of available historical maps undertaken within the PIR revealed that the site historically formed part of a brick works originally located across the southern boundary of site with an excavation to the north, which expanded to encompass the remaining area of site and beyond the site boundaries to the north and west by circa 1953.

7.2.2 A survey of the pit, dated 1977, provided in the tender documentation indicates a maximum depth about 15m decreasing to about 5m towards the perimeter. This survey indicates the pit to be flooded to full depth.

7.2.3 The surrounding land has primarily been used in association with two railway lanes to the north, west and south of site. The excavated area of the site was indicated as a pond by c. 1960, with the western boundary known to have been used as a landfill during the 1970s

7.2.4 From 1990, all of the buildings related to the brick works were removed and the site fully backfilled for the development of industrial units with the central northern unit identified as a recycling centre. The industrial estate has subsequently expanded towards the eastern site boundary and the railway buildings to the west have been demolished and replaced by a cinema and fast food establishments.

7.2.5 The research has identified the following potential sources of contamination which may form part of a pollutant linkage:

- Historic land uses associated with former brick works, including tanks, landfill in the west of the of the site and excavation backfilled by unknown material.
- Current and recent commercial / industrial uses on the site including car breakers and recycling services, together with storage of waste, oils and chemicals.
- Historic land uses of surrounding areas associated with railway infrastructure and tanks.
- Current and recent commercial / industrial uses in the surrounding area including dairies, garage services, engineers, railway infrastructure, recycling services and tanks.

7.3 Sampling and Testing Strategy

7.3.1 Exploratory hole locations were set out to provide an overview of ground conditions across the site in relation to the proposed construction, together with enabling the collection of samples to enable chemical characterisation of the underlying strata.

7.3.2 Representative samples for potential environmental testing were obtained from the exploratory holes at varying intervals within the various strata to allow a representation of the materials encountered, with additional samples to be obtained where there was visual or olfactory evidence of contamination.

7.3.3 The analytical testing was based on a suite of commonly occurring inorganic and organic contaminants, taking into account the Conceptual Site Mode and the ground conditions encountered.

7.4 Risk Assessment – Human Health

7.4.1 The proposed development consists of six industrial plots; four containing industrial buildings, one containing a recycling centre, and the last for use as car parking for a car dealership. The risk assessment has therefore been based on guidelines for a commercial / industrial end use. Should the proposed development be changed in the future then further risk assessment may be required, particularly should a more sensitive end-use be envisaged.

7.4.2 Made Ground was encountered in all of the exploratory holes and extended, where proven, generally to depths of between 10.30 m and 13.90 mbgl, though shallower depths of 3.50 m and 2.50 mbgl were proven in BH07A and BH08A respectively. BH07A and BH08A were located outside the recorded perimeter of the brick pit excavation. The Made Ground comprised both granular and cohesive material with gravels including brick, concrete, wood, plastic, glass, metal, ash, charcoal, coal, clinker, ceramics, tarmacadam, limestone, siltstone, sandstone and mudstone, and low to high cobble content including brick, concrete, timber, mudstone, siltstone and quartz. Materials consistent with landfilled waste including plastic bags, rope, cloth and larger pieces of plastic, wood and metal, were also noted. Olfactory evidence of contamination was observed within the Made Ground in the form of a slight hydrocarbon odour in BH01A between 1.90 m and 10.00 mbgl, a strong sweet chemical odour (creosote) in BH03A between 4.00 m and 10.00 mbgl, and a strong hydrocarbon odour in BH05A between 2.00 m and 10.40 mbgl.

7.4.3 The results of all chemical analyses have been processed in accordance with the recommendations set out in the CIEH and CL:AIRE document ‘Guidance on Comparing Soil Contamination Data with a Critical Concentration’, ref. 9.45. The results have been compared to screening levels, ref. 9.43 and 9.46, derived in accordance with current legislation and guidance and those primarily used have been tabulated and detailed within Appendix 6.

7.4.4 Taking into account the most likely sensitive receptor, the human health risk assessment has been based on guidelines for a commercial / industrial end use. Screening levels derived using a Soil Organic Matter content of 1%, where relevant, have been used in the first instance as a conservative approach.

7.4.5 Where the concentrations determined on site are at or below the respective Screening Level, they are considered not to pose a risk and are removed from further consideration, unless otherwise stated.

7.4.6 The only elevated concentration identified from the results was dibenzo(ah)anthracene in the sample of Made Ground from BH05A at 11.00 mbgl, which did not exceed the GAC of 3.5 mg/kg with a concentration of 0.382 mg/kg. The concentration of indicator compound benzo(a)pyrene in the same sample did not exceed the GAC and this concentration at the depth identified is not considered to represent a risk to human health.

7.4.7 A number of positive concentrations of SVOC and VOC compounds for which there is no current generic screening criteria were recorded in samples of Made Ground tested from the cable percussion boreholes at depths of between 0.20 m and 11.00 mbgl, and the sample of natural soil from BH07A at 6.00 mbgl.

7.4.8 A summary of the results for the compounds identified is provided below:

Compound	Concentration Range (µg/kg (mg/kg))
SVOCs	
Dibenzofuran	272 (0.272) – 1090 (1.09)
Carbazole	111 (0.111) – 531 (0.531)
Bis(2-ethylhexyl)phthalate	2950 (2.95) – 7200 (7.2)
2,4-Dimethylphenol	355 (0.355)
2-Methylnaphthalene	130 (0.13) – 646 (0.646)
n-Dibutylphthalate	380 (0.38)
Perylene	109 (0.109) – 851 (0.851)
Total SVOCs	109 (0.109) – 10581 (10.581)
VOCs	
Carbon Disulphide	2 (0.002) – 3 (0.003)
Isopropylbenzene	4 (0.004) – 8 (0.008)
n-Propylbenzene	2 (0.002) – 18 (0.018)
1,3,5-Trimethylbenzene	13 (0.013) – 1080 (1.08)
tert-Butylbenzene	3 (0.003)
1,2,4-Trimethylbenzene	53 (0.053) – 206 (0.206)
sec-Butylbenzene	8 (0.008)
4-Isopropyltoluene	1 (0.001) – 125 (0.125)
1,2-Dichlorobenzene	1 (0.001)
Total VOCs	2 (0.002) – 1451 (1.451)

7.4.9 The majority of the concentrations recorded are not considered to represent a significant risk to human health directly, particularly given the proposed commercial development comprising hard standing capping the majority of the site footprint. However, there may be a risk from the ingress of vapours within proposed structures, which is addressed further in Section 7.6. The greatest number of compounds and highest concentrations were recorded in the sample of Made Ground from BH05A at 11.00 mbgl. The concentrations of organic compounds including TPH were notably higher in this sample compared to the other samples tested, likely associated with the strong hydrocarbon odour noted above this from a depth of 2.00 m to 10.40 mbgl.

7.4.10 In addition to the above, asbestos was identified in the following sample of Made Ground:

Location	Depth (mbgl)	Quantification Result (%)	Notes
BH02A	0.20	<0.001	Chrysotile – loose fibres

7.4.11 With the exception of the asbestos identified within the Made Ground in BH02A, no significant risks to human health have been identified from the concentrations of contaminants identified in the samples tested. Provided that the area in which the asbestos was identified is to be capped by hard standing, no further remediation will be required to address this and given the low mass of the asbestos in the sample tested, risks to ground workers during the construction phase are considered to be low. However, there is the potential for further asbestos to be present within the Made Ground, potentially at shallow depths and therefore, appropriate health and safety measures should be implemented when undertaking excavations. Further information with regard to classification of the material for waste disposal is provided in Section 10.

7.4.12 It should be noted that the screening criteria for the proposed commercial end use is significantly less conservative than for more sensitive end uses, such as residential, and therefore, should the introduction of a more sensitive end use be proposed in the future, further risk assessment would be required.

7.5 Risk Assessment - Controlled Waters

7.5.1 The site is situated above a Secondary Undifferentiated aquifer, relating to the relatively low permeability superficial deposits of Till and Tidal Flat Deposits, over a Secondary B aquifer, relating to the variably permeable bedrock of the Denbigh Grits Formation. However, the Secondary superficial aquifer is indicated to be of high vulnerability and nearby boreholes records indicate the presence of groundwater at shallow depth. The site is not located within a groundwater Source Protection Zone (SPZ) and there are no licensed groundwater abstractions recorded within 2km.

7.5.2 The nearest surface watercourse is the River Conwy, recorded 311m to the south of the site at its closest point, and there is a Site of Special Scientific Interest (SSSI) recorded from 234m to the southwest relating to the Conwy Estuary.

7.5.3 Groundwater was encountered in the boreholes during the site works, within the natural strata at depths between 13.10m and 18.00mbgl, rising to 11.20mbgl within the natural strata (in BH07A and BH08A) and to between 4.00m and 9.00mbgl within the Made Ground (in BH03A, BH04B, BH05A and BH06A) after twenty minutes. Groundwater was encountered within the Made Ground in the remaining borehole locations at depths between 2.60m and 10.30mbgl, rising to between 1.70m and 5.00mbgl after twenty minutes. During return monitoring visits, groundwater in the standpipes was manually recorded within at depths between 0.86m and 5.32mbgl (6.42m to 2.71mAOD).

7.5.4 Whilst groundwater within the underlying aquifers is not considered to be of high sensitivity due to variable permeability of the anticipated geology, industrial nature of the surrounding area and absence of nearby sensitive abstractions, this may represent a pathway for contaminants to migrate towards the river and SSSI to the south / southwest, which may be further transmitted due to the site potentially being affected by tidal changes within the groundwater.

7.5.5 An initial assessment of the risk to controlled waters has been conducted on the basis of leachate testing undertaken on five representative samples of the Made Ground encountered, together with groundwater analysis carried out on ten samples obtained from the standpipes installed in BH01A, BH1B, BH02A, BH03A, BH03B, BH05A, BH05B, BH06A, BH06B and BH08A during a return monitoring visit carried out over the 7th and 8th April 2022.

7.5.6 The results have been screened against the Water Supply (Water Quality) Regulations, ref. 9.48, (for groundwater) and Environmental Quality Standards (EQS) tidal water guidance values, ref. 9.49, (for surface waters), together with other relevant guidance for contaminants not included in these, such as World Health Organisation (WHO) drinking water values, refs. 9.50 and 9.51, as presented in Appendix 6. The most conservative screening value for each contaminant has been adopted.

7.5.7 Those contaminants above limit of detection with observed concentrations above the GAC identified in the leachate results are detailed below:

Location	Depth (mbgl)	Contaminant	Concentration (µg/l)	Guidance Level (µg/l)	Guidance
BH01A	3.00	Lead	2	1.3	EQS
		Manganese	52	50	WSR
		Benzo(b)fluoranthene	2	0.1	EQS*
BH03A	5.00	Lead	2	1.	EQS
		Manganese	80	50	WSR
		Anthracene	3	0.1	WHO
		Naphthalene	280	2	WHO
		Benzene	7	1	WHO
		TPH Aromatic >C8-C10	727	300	WHO
		TPH Aromatic >C10-C12	4719	90	WHO
		TPH Aromatic >C12-C16	1994	90	WHO
		TPH Aromatic >C16-21	358	90	WHO
BH05A	4.00	Lead	3	1.3	EQS
		Manganese	152	50	WSR
BH06A	6.00	Cyanide (free)	53	1	EQS
		Mercury	115	0.07	EQS
BH07	3.00	Cyanide (free)	152	1	EQS
		Arsenic	42.2	10	WSR
		Chromium (hexavalent)	1	0.6	EQS
		Mercury	201	0.07	EQS
		Nickel	55	8.6	EQS

*EQS based on sum of values for all four compounds (benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(123-cd)pyrene.

7.5.1 Those contaminants above limit of detection with observed concentrations above the GAC identified in the groundwater results are detailed below:

Location	Contaminant	Concentration (µg/l)	Guidance Level (µg/l)	Guidance
BH01A	Manganese	445	50	EQS
	Zinc	9	6.8	EQS
	Fluoranthene	0.04	0.0063	EQS
BH01BA	Cyanide (total)	11	1	EQS
	Arsenic	52	10	WSR
	Manganese	5670	50	EQS
	Anthracene	0.16	0.1	EQS
	Benzo(a)pyrene	0.19	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.65	0.0063	EQS
	Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Indeno(123-cd)pyrene	0.56 (sum of compounds)	0.1 (sum of compounds)	EQS
BH02A	Manganese	750	50	EQS
BH03A	Phenols	10	7.7	EQS
	Manganese	625	50	EQS
	Zinc	8	6.8	EQS
BH03B	Cyanide (total)	12	1	EQS
	Arsenic	15	10	WSR
	Manganese	2760	50	EQS
	Anthracene	0.33	0.1	EQS
	Benzo(a)pyrene	0.09	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.73	0.0063	EQS
	Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Indeno(123-cd)pyrene	0.25 (sum of compounds)	0.1	WSR
BH04B	Cyanide (total)	22	1	EQS
	Arsenic (dissolved)	12	10	WSR
	Manganese (dissolved)	2040	50	EQS
	Benzo(a)pyrene	0.01	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.02	0.0063	EQS
	Benzene	1	1	EQS
BH05A	Manganese	545	50	EQS
	Nickel	24	8.6 / 20	EQS / WSR
	Fluoranthene	0.08	0.0063	EQS
	Naphthalene	37.14	2	EQS
	Benzene	7	1	EQS
	Xylenes	396	300	EQS
	TPH aliphatic C10-C12	333	300	WHO
	TPH aromatic C8-C10	3237	300 (ethylbenzene) 500 (xylenes)	WHO
	TPH aromatic C10-C12	2428	90	WHO
	TPH aromatic C12-C16	219	90	WHO
BH05B	Cyanide (free)	5	1	EQS
	Cyanide (total)	22	1	EQS

Location	Contaminant	Concentration (µg/l)	Guidance Level (µg/l)	Guidance
	Manganese	4680	50	EQS
	Nickel	62	8.6 / 20	EQS / WSR
	Zinc	8	6.8	EQS
	Anthracene	0.23	0.1	EQS
	Benzo(a)pyrene	0.02	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.4	0.0063	EQS
	TPH aliphatic C10-C12	465	300	WHO
	TPH aliphatic C12-C16	486	300	WHO
	TPH aromatic C10-C12	324	90	WHO
	TPH aromatic C12-C16	314	90	WHO
	TPH aromatic C16-C21	447	90	WHO
	TPH aromatic C21-C35	317	90	WHO
BH06A	Manganese	8560	50	EQS
	Zinc	9	6.8	EQS
	Benzo(a)pyrene	0.02	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.09	0.0063	EQS
BH06B	Manganese	2960	50	EQS
	Nickel	36	8.6 / 20	EQS / WSR
	Anthracene	0.13	0.1	EQS
	Benzo(a)pyrene	0.023	0.00017 / 0.01	EQS / WSR
	Fluoranthene	0.21	0.0063	EQS
	Naphthalene	6.37	2	EQS
BH08A	Manganese	875	50	EQS

7.5.2 Positive concentrations of some VOC and SVOC compounds for which there is no available GAC were also recorded in the groundwater results, most notably in the sample from BH05A, which corresponds with the highest recorded TPH concentrations.

7.5.3 Elevated leachate results were identified for a number of metals; arsenic, hexavalent chromium, lead, manganese, mercury and nickel. Elevated metal concentrations were also recorded in the groundwater results in the majority of the samples tested, not including hexavalent chromium, lead or mercury, though with the addition of elevated zinc.

7.5.4 Elevated concentrations of PAH compounds were also identified in the majority of the leachate and groundwater samples, together with benzene, xylenes and / or TPH in the leachate sample from BH03A and groundwater samples from BH05A and BH05B.

7.5.5 Marginally elevated concentrations of cyanide were also recorded in both the leachate and groundwater results, together with phenols in the groundwater sample from BH03A.

7.5.6 The results indicate that leachable contaminants within the Made Ground are being mobilised to the groundwater, though the concentrations would not be unexpected for landfill materials. Further detailed risk assessment may therefore be required to determine whether the concentrations represent a significant risk to the nearby estuary.

7.6 Gas Generation

7.6.1 The PIR identified the potential for sources of ground gas on the site in the form of landfill, infilled ground and potential organic contamination.

7.6.2 The PIR also identified the site as falling within a radon affected area. Whilst the guidance relates to residential housing, it is recommended that the Local Authority Building Control is consulted for confirmation of whether any further assessment or incorporation of radon protective measures will be required for the proposed development.

7.6.3 Made Ground was encountered to depths, where proven, of between 2.50 m and 13.90 mbgl, which included large proportions of anthropogenic and waste materials consistent with the former use of the site as landfill. Olfactory evidence of contamination was observed within the Made Ground in the form of a slight hydrocarbon odour in BH01A between 1.90 m and 10.00 mbgl, a strong sweet chemical odour (creosote) in BH03A between 4.00 m and 10.00 mbgl, and a strong hydrocarbon odour in BH05A between 2.00 m and 10.40 mbgl.

7.6.4 Standpipes were installed in sixteen boreholes, ten with response zones targeting the Made Ground and six with response zones targeting the natural soil.

7.6.5 Six monitoring visits (some carried out over more than one day) have been undertaken over a period of approximately eleven weeks, in accordance with current guidance, as summarised in Appendix 7. Atmospheric pressure ranged between 996 mb and 1018 mb over the period of monitoring, with one partial visit carried out under low (<1000mb) atmospheric pressure conditions.

7.6.6 The results of the monitoring are provided in Appendix 7.

7.6.7 A maximum methane concentration of 97.9% by volume (v/v) was recorded, together with a maximum carbon dioxide concentration of 14.9% v/v. Variable flow rates have been observed, with a peak of 24.2 litres/hour (l/hr) recorded in BH03A.

7.6.8 The results are assessed in further detail below:

Location	Targeted Response Zone	Flooded	Peak CH4 (% v/v)	Peak CO2 (% v/v)	Peak (+/-) Flow (l/hr)	GSV (CH4)	GSV (CO2)	CS
BH01A	Natural	Yes	92.8	7.8	-3.2	2.970	0.250	3
BH01BA	**Made Ground**	**No**	**53.4**	**7.9**	**4.7**	**2.510**	**0.371**	**3**
BH02A	Natural	Yes	0.8	0.3	1.3	0.010	0.004	1
BH02B	**Made Ground**	**No**	**75.2**	**1.9**	**-1.2**	**0.902**	**0.023**	**3**
BH03A	Natural	Yes	27.4	3.4	24.2	6.631	0.823	4
BH03B	**Made Ground**	**No**	**97.9**	**2.8**	**8.8**	**8.615**	**0.246**	**4**
BH04A	**Made Ground**	**No**	**93.2**	**14.0**	**-2.8**	**2.610**	**0.392**	**3**
BH04B	Natural	Yes	82.9	4.4	3.1	2.570	0.136	3
BH05A	Made Ground	Yes	87.8	14.9	3.7	3.249	0.551	3
BH05B	**Made Ground**	**No**	**90.1**	**11.0**	**-7.2**	**6.487**	**0.792**	**4**
BH06A	Made Ground	Yes	88.5	2.8	6.1	5.399	0.171	4
BH06B	**Made Ground**	**No**	**85.2**	**6.9**	**14.5**	**12.354**	**1.001**	**4**
BH07A	Natural	Yes	45.6	4.4	0.2	0.091	0.009	2
BH07B	**Made Ground**	**No**	**4.9**	**4.9**	**0.2**	**0.010**	**0.010**	**2**
BH08A	Natural	Yes	**3.6**	**6.4**	**<0.1**	**0.004**	**0.006**	**2**
BH08B	Made Ground	Yes	1.2	1.6	-3.6	0.043	0.058	2

7.6.9 Using the worst-case values, a Gas Screening Value (GSV) of 12.3541/h has been calculated for methane and a GSV of 1.0011/hr has been calculated for carbon dioxide, which would place the site within Characteristic Situation (CS) 4. This assessment indicates a moderate to high risk for which protection measures are required.

7.6.10 The standpipes in BH02A and BH08A were only monitored for gas on the sixth visit as prior to this divers were installed in these locations to provide data on tidal fluctuations within the groundwater. Divers were also installed in BH04B and BH05A, though on the second visit, bungs were installed and gas readings taken after three hours.

7.6.11 BH07A could not be accessed on the first two monitoring visits and therefore, data could not be obtained for this location on these dates. BH08B could also not be accessed on the first visit.

7.6.12 The response zones in all of the standpipes installed into the natural strata, together with some of those installed in the Made Ground were flooded during the monitoring. Consequently, the results will not be representative of the ground conditions in these locations. Representative results were obtained for the Made Ground in BH01BA, BH02B, BH03B, BH04A, BH05B, BH06B and BH07B, which indicated Characteristic Situations predominantly between 3 and 4 (with the exception of CS 2 in BH07B). On the basis of these results, a worst case assessment of CS 4 has been adopted for the site.

7.6.13 A peak concentration of 50 ppm hydrogen sulphide was recorded in BH07B on the fourth visit, whilst a maximum concentration of 5 ppm was recorded over the other locations and visits. A peak concentration of 24 ppm carbon monoxide was recorded in BH04B on the second visit, whilst a maximum concentration of 8ppm was recorded over the other locations and visits.

7.6.14 Concentrations of total VOCs were measured using a photo ionisation detector (PID) and recorded a peak concentration of 145 ppm in BH04B on the second visit, whilst a maximum concentration of 2.6 ppm was recorded over the other locations and visits.

7.6.15 Based on the monitoring undertaken, in line with current guidance, protection measures in relation to gas in ingress are required as summarised in Section 8.0. Further monitoring and risk assessment may be required to inform the design of the proposed measures.

7.6.16 Consideration should be given to undertaking further ground gas monitoring using continuous data loggers and a Detailed Quantitative Risk Assessment (DQRA) of the site as this may facilitate either zoning of the site or the CS of the site to be reduced.

7.7 Protection of Services

7.7.1 Guidance from the UKWIR, ref. 9.52, sets out the material requirements for newly laid water supply pipes within Brownfield sites. However, the exact requirements should be clarified with the relevant local water utility supplier for the site.

7.7.2 An assessment of the contamination testing has been undertaken, which indicates elevated levels of SVOCs and / or TPH are present within the near surface soils, which exceed the guidelines for standard plastic polyethylene (PE) pipe, specifically within the Made Ground in BH02A at 0.20 m and 2.00 mbgl.

7.7.3 Further elevated concentrations of VOCs, SVOCs, BTEX and MTBE and/or TPH were identified in BH03A at 5.00 mbgl and BH05A at 11.00 mbgl, though it is considered unlikely that services would be placed at these depths.

7.7.4 Additionally, concentrations of TPH (C5-C10) in BH02A at 2.00 mbgl and VOCs, SVOCs and phenols in BH03A at 5.00 mbgl exceed the guidelines for polyvinyl chloride (PVC) pipe.

7.7.5 A summary of the assessment for the relevant contaminants investigated is provided below:

Parameter	PE Threshold (mg/kg)	PVC Threshold (mg/kg)	Maximum Site Concentration (mg/kg)	Locations and Depths Exceeded
Total VOCs	0.5	0.125	1.451	BH03A at 5.00 mbgl (PVC) BH05A at 11.00 mbgl
Total SVOCs (excluding PAHs)	2	1.4	10.581	BH02A at 0.20 mbgl BH02A at 2.00 mbgl BH03A at 5.00 mbgl (PVC) BH05A at 11.00 mbgl
BTEX and MTBE	0.1	0.03	0.24	BH03A at 5.00 mbgl BH05A at 11.00 mbgl
EC5-EC10 aliphatic and aromatic hydrocarbons	2	1.4	261.02	BH02A at 2.00 mbgl (PVC) BH03A at 5.00 mbgl BH05A at 11.00 mbgl
EC10-EC16 aliphatic and aromatic hydrocarbons	10	Suitable	1123	BH03A at 0.20 mbgl BH03A at 5.00 mbgl BH05A at 11.00 mbgl BH06A at 0.20 mbgl
EC16-EC40 aliphatic and aromatic hydrocarbons	500	Suitable	3167	BH05A at 11.00 mbgl
Phenols	2	0.4	0.5	BH03A at 5.00 mbgl (PVC)

7.7.6 Given the extent of the Made Ground encountered across the site and elevated concentrations observed, it is likely that installation of barrier pipe or selection of an alternative material to plastic will be required for any proposed new water supply services. Further guidance should be sought from the local water supply company prior to installation.

7.8 Conceptual Site Model – Revised

7.8.1 The conceptual model formed within the PIR has been updated to reflect the findings of the contamination risk assessment and the revised conceptual model, detailing the relevant pollutant linkages, is tabulated below:

Potential Source	Potential Contaminants of Concern	Potential Pathways	Potential Receptors	Probability	Consequence	Risk
Brick Works Made Ground Infilled Ground Landfill Tanks Vehicle Breakers Waste Recycling Industrial Uses Oil, Chemical and Waste Storage	Metals Cyanide PAH TPH Phenols VOCs	Entry of contaminants by skin or eye contact with contaminated soils or dust Inhalation of contaminated dust Inhalation or migration of toxic/explosives gases/vapours	Humans • Site users • Construction Workers	Unlikely Unlikely	Medium Medium	Low Low
		Infiltration Migration	Controlled Waters • Groundwater • Surface Water	Likely Likely	Mild Medium	Moderate / Low Moderate
	Asbestos	Inhalation of fibres	Humans • Site users • Construction Workers	Likely Unlikely	Medium Medium	Moderate Low
	TPH VOCs	Direct contact	Buildings, Materials and Services • Plastic pipes and services	Likely	Medium	Moderate
Ground Gases	Methane Carbon dioxide	Migration Ingression	Humans and buildings • Gas ingress into buildings	High	Medium	Moderate / High

7.9 Summary of Risk Evaluation

7.9.1 The above assessment identifies that 'source – pathway – receptor' linkages potentially occur with metals, PAH, TPH, cyanide and phenols impacting upon the nearby estuary to the southeast of the site and therefore, further detailed risk assessment may be required.

7.9.2 Potential pollutant linkages have been identified with regard to human receptors associated with asbestos within the Made Ground, though this was only found in one sample, from BH02A and 0.20mbgl.

7.9.3 Given the extent of the Made Ground encountered across the site and concentrations of organic concentrations observed, it is likely that installation of barrier pipe or selection of an alternative material to plastic will be required for any proposed new water supply services.

7.9.4 The proposed development will likely require the installation of gas protection measures due to the presence of elevated methane and carbon dioxide gas, together with detectable concentrations of VOCs and SVOCs identified in the soils and groundwater beneath the site.

7.10 Waste

7.10.1 An initial assessment of the likely waste classification for any material to be disposed of has been conducted on the basis of the chemical test results obtained as part of the contamination risk assessment.

7.10.2 This assessment has been conducted using the HazWasteOnline^{tm} tool, ref. 9.53, the output sheets from which are included within Appendix 4.

7.10.3 This assessment indicates the material represented by the following sample of Made Ground would be classified as hazardous waste under code 17 05 04, should disposal to landfill be required:

Location	Depth (mbgl)	Hazardous Properties	Notes
BH05A	11.00	HP3(i): Flammable HP7: Carcinogenic HP11: Mutagenic	Due to TPH and volatile compounds

7.10.4 The material represented by the remaining samples tested, whether Made Ground or natural soil, would be classified as non- hazardous waste under code 17 05 04.

7.10.5 Screening identified the presence of asbestos fibres in the sample of Made Ground from BH02A at 0.20mbgl. However, quantification analysis indicated the mass of asbestos in the samples to be less than 0.001% and therefore, below the 0.1% screening criteria for hazardous waste. Consequently, this material would not be classified as hazardous for disposal on the basis of the asbestos identified.

7.10.6 Waste Acceptance Criteria (WAC) testing has not been undertaken at this time. It should be noted that individual tips might require further analysis prior to the disposal of any material from the site. Any such requirements should be clarified with the tip prior to any further analysis being undertaken. Clean natural soils are considered to be inert without the need for further WAC testing.

7.10.7 Any unexpected visually contaminated material should be segregated for further classification testing prior to disposal.

8.0 MANAGEMENT OF CONTAMINATION

8.1 Remediation and Verification

8.1.1 The risk management framework set out in Environment Agency report Land Contamination Risk Management (LCRM), ref. 9.54, is applicable to the redevelopment of sites that may be affected by contamination.

8.1.2 The risk management process set out in the Model Procedures has three main components:

- Risk assessment
- Options appraisal
- Implementation

8.1.3 An important part of the risk management process is identifying and informing all stakeholders with an interest in the outcome of the risk management project. To this end, if the regulators have not yet been contacted with regard to the redevelopment of this site, it is recommended that they be supplied with a copy of all relevant reports in order to enable liaison to be undertaken with them.

8.1.4 Following liaison with the relevant regulatory bodies, a remediation strategy could be formulated, which should incorporate an options appraisal and summarise in detail the chosen remedial approach, along with the verification proposals. The remediation strategy should then be approved by the relevant regulatory authorities prior to implementation.

8.1.5 Where remediation is required, a verification report will need to be formulated following implementation of the remediation strategy, which should provide a complete record of all remedial activities conducted on site and include all the data obtained to support the remedial objectives and demonstrate that the remediation has been effective. Any unexpected conditions encountered during the remedial works should also be detailed within the verification report.

8.1.6 With the exception of asbestos identified within the Made Ground in BH02A, no significant risks to human health have been identified from the concentrations of contaminants identified in the samples tested based on the proposed commercial development.

8.1.7 Provided that the area in which the asbestos was identified is to be capped by hard standing, no further remediation will be required to address this. Should any landscaping be proposed at ground level, further soil sampling and asbestos screening or placement of a sufficient capping layer of clean soil will be required to prevent exposure of any further asbestos contamination to end users of the site.

8.1.8 Given the low mass of asbestos identified in the soil sample, risks to ground workers during the construction phase are considered to be low. However, there is the potential for further asbestos to be present within the Made Ground, potentially at shallow depths and therefore, appropriate health and safety measures should be implemented when undertaking excavations.

8.1.9 Initial leachate and groundwater testing indicated that contaminants (metals, PAH, TPH, cyanide and phenols) are likely being mobilised from the Made Ground to the groundwater within the underlying natural strata. Further detailed risk assessment may therefore be required to determine whether the concentrations represent a significant risk to the nearby estuary to the southeast of the site.

8.1.10 Gas monitoring has indicated the requirement for the installation of gas protection measures in accordance with CS 4 due to elevated concentrations of methane and carbon dioxide recorded within the Made Ground. Further monitoring and risk assessment may be required to inform the design, subject to consultation with the Local Authority. Guidance for the design of gas protection measures is provided in BS8485 (2015), ref. 9.65, which indicates that for a Type D commercial/industrial building (industrial/retail park), such as the proposed, a Gas Protection Score of 3.5 would be required.

8.1.11 A combination of two or more of the following three types of protection measures should be used to achieve the required score:

- The structural barrier of the floor slab, or of the basement slab and walls if a basement is present;
- Ventilation measures; and
- Gas resistant membrane.

8.1.12 A detailed design will be required by a suitably qualified engineer. However, in addition to the construction of the foundation and floor slab, measures will likely need to include a proprietary gas resistant membrane and passively ventilated underfloor subspace or positively pressurised underfloor sub-space, oversite capping or blinding and in ground venting layer. Given the detectable concentrations of VOCs and SVOCs identified in the soils and groundwater beneath the site, it would be prudent to incorporate a vapour resistant membrane within these measures.

8.1.13 Given the extent of the Made Ground encountered across the site and concentrations of organic contaminants observed, it is likely that installation of barrier pipe or selection of an alternative material to plastic will be required for any new water supply services proposed on the site. The local water supply company should be consulted for confirmation of the requirements for the proposed development.

8.2 Management of Unidentified Sources of Contamination

8.2.1 There is the possibility that sources of contamination may be present on site that were not detected during the investigation. Should such contamination be identified or suspected during the site clearance or ground works, these should be dealt with accordingly. A number of options are available for handling this material, which include:

- The removal from site and disposal to a suitably licensed tip of all material suspected of being contaminated. The material would need to be classified prior to disposal.
- Short-term storage of the suspected material while undertaking verification testing for potential contamination. The storage area should be a contained area to ensure that contamination does not migrate and affect other areas of the site. Depending upon the amounts of material under consideration, this could be either a skip or a lined area.
- Having a suitably experienced environmental engineer either on-call or with a watching brief for the visual and olfactory assessment of the material, and sampling for verification purposes.

8.3 Risk Management During Site Works

8.3.1 During ground works, some simple measures may have to be put in place to mitigate the risk of any contamination affecting the site workers and the environs. The majority of the proposed measures represent good practice for the construction industry and include:

- Informing the site workers of any contamination on site and the potential health effects from exposure.
- Where appropriate, the provision of suitable Personal Protective Equipment (PPE) for workers who may be potentially impacted by working in areas of the contamination.
- Ensuring good hygiene is enforced on site and washing facilities are maintained on the site. Workers are discouraged from smoking, eating or drinking without washing their hands first.
- Dust monitoring, and if necessary, suppression measures should be put into practice where contamination is becoming airborne.
- Site drainage should be prevented from entering any nearby watercourse.

8.3.2 Where contaminated materials are being removed from the site they should be disposed of at a suitably licensed landfill, with a ‘duty of care’ system in place and maintained throughout the disposal operations.

8.4 Consultation

8.4.1 During the development of a site, consultation may be required for a number of reasons with a number of regulatory Authorities. The following provides an indication as to the most likely Authorities with which consultation may be required.

- **Local Authority.** There may be a planning condition regarding contamination and consultation will be required with a designated Contaminated Land Officer within the Environmental Health Department. The Local Authority is generally concerned with human health risks. Some Authorities now require 'Completion Certificates' to be signed off following remediation works.

- **Environment Agency.** Where a site is situated above an aquifer, within a groundwater protection zone, close to surface water or has been designated as a special site, the Environment Agency is likely to be involved to ensure that controlled waters are protected.

8.4.2 Based on the results of any consultation, there may be specific remediation requirements imposed by one or more of the Authorities.

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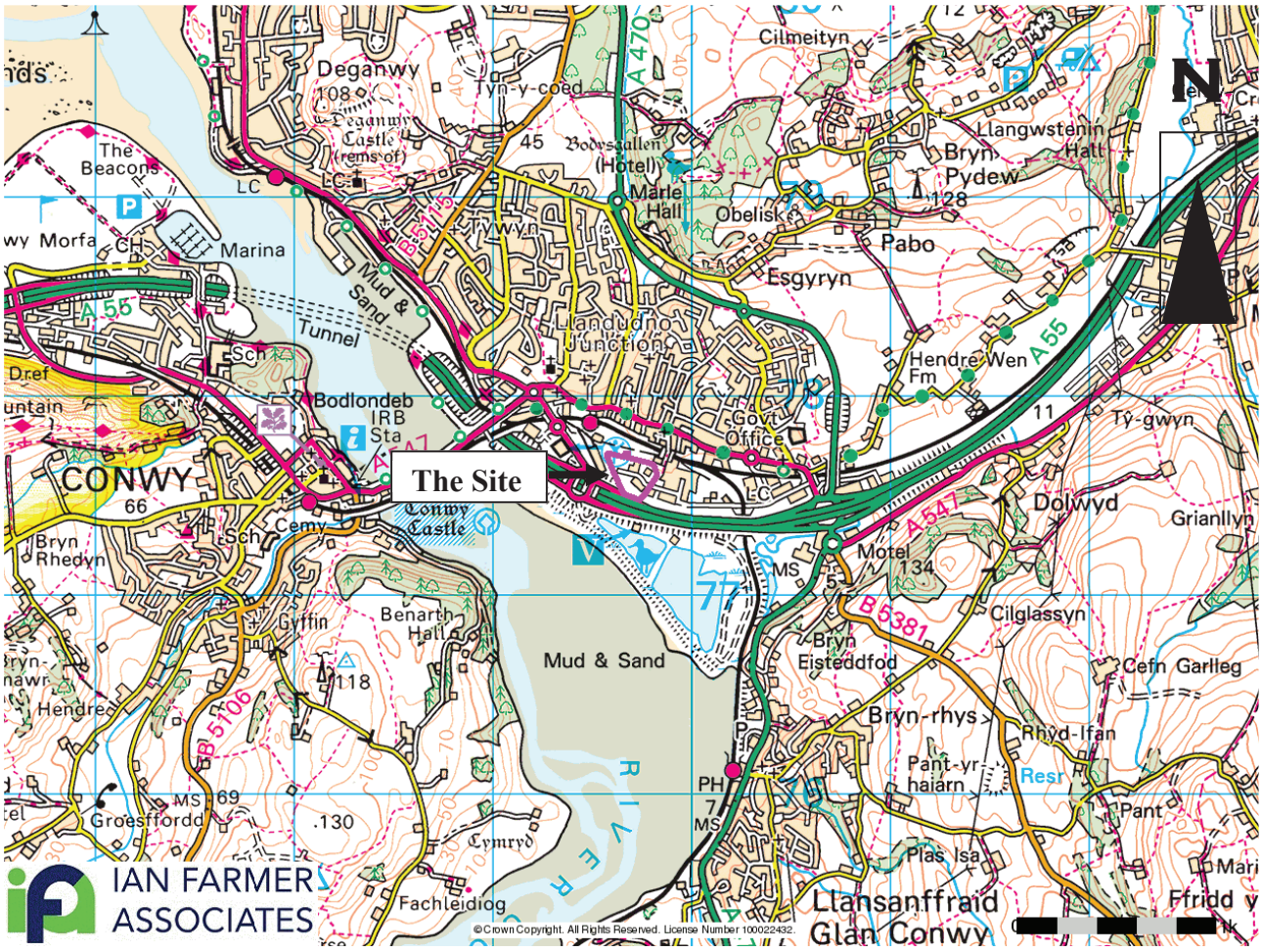
APPENDIX 1

DRAWINGS



PROJECT: 2230642 – Llandudno Brickworks	
FIGURE No. A1.1	**SCALE: Not to scale**
TITLE: Site Location Plan	
IAN FARMER ASSOCIATES	

Project Id:	2230642	Title:	Figure A1.2: Exploratory Hole Location Plan
Project Title:	Brickworks Llandudno Junction	Scale:	1:1500
Client:	Conwy Borough Council		

IAN FARMER ASSOCIATES

NOTES

KEY

REV	DETAIL	DRAWN	CHECKED	DATE

PROJECT
Brickworks Regeneration Programme

TITLE
Plots 1 to 6, Site Overview Proposed Plot Allocations

CLIENT
Estates & Asset Management Economy & Place

SCALE @ A1:	DRAWN:	CHECKED:	APPROVED:	DWG STATUS:
1:500	DHS	CB	RH	SKETCH
	DATE: 22-02-21	DATE: 22-02-21	DATE: 22-02-21	

CONWY
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ERER1501 /	SK01	-

APPENDIX 2

SITE WORK

APPENDIX 2

GENERAL NOTES ON SITE WORKS

A2.1 SITE WORK

A2.1.1 General

Site work is carried out in general accordance with the guidelines given in BS EN 1997, 9.6 and BS 5930, ref 9.5, and BS 10175, ref.9.4.

A2.1.2 Trial Pits

Shallow trial pits are generally dug by mechanical excavator, however, in difficult access locations or adjacent to structures, such pits may be hand dug. Pits are best used where the ground will stand unsupported and generally, the maximum depth of machine dug pits is 4m to 5m. Where personnel are required to enter pits, it is essential that side support is provided. Entry by personnel into unsupported pits deeper than 1.2m is not allowed for health and safety reasons.

Trial pits allow the in-situ condition of the ground to be examined both laterally and vertically and also allow discontinuities to be recorded. The field record should give the orientation of the pit with details of which face was logged, assessment of stability of sides of pit and groundwater as well as the strata encountered. Photographs of the pit may also be taken.

In-situ testing, such as hand penetrometer, hand vane, Macintosh probe, or similar, can be undertaken in the sides or base of pits while both disturbed and undisturbed samples may be recovered.

It is generally advisable to backfill the pits as soon as possible, open pits should not be left unattended.

A2.1.3 Light Cable Percussion Boring

The light cable percussion rig is generally employed for boring through soils and weak rocks, ref 9.5. It consists of a powered winch and tripod frame, with running wheels that are permanently attached so that the rig may be towed behind a suitable vehicle. The rig is towed into position and set up using its own winching system.

The locations of services are checked to make sure the borehole is not situated unacceptably near any services. Regardless of the proximity of services, a CAT scan is undertaken at the borehole location and an inspection pit dug to 1.20m by hand.

Boreholes are advanced in soil by the percussive action of the cable tool. The force of the cylindrical tool as it is dropped a short distance cuts a plug of cohesive soil that is removed by the tool.

In non-cohesive soils, the borehole is advanced by a ‘shell’, otherwise known as a ‘bailer’ or ‘sand pump’, which incorporates a clack valve. Material is transferred into the shell and retained by the clack valve. The water level in a borehole is maintained above that in the surrounding granular soil to allow for temporary reductions in the head of water as the shell is withdrawn from the borehole. Water should flow from the borehole into the surrounding soil at all times to prevent ‘piping’ and loosening the soil at the base of the hole. The casing is always advanced with the borehole in granular soil so that material is drawn from the base rather than the borehole sides.

Obstructions to boring are overcome by fitting a serrated chiselling ring to the base of the percussion tool. For large obstructions, a heavy chisel with a hardened cutting edge may have to be used.

Disturbed samples are taken in polythene bags, jars or tubs that are sealed against air or water loss.

Undisturbed samples are generally taken in cohesive materials at changes in strata and at one metre intervals to 5 metres then at 1.5 metre intervals to the full depths of the borehole. The open-tube sampler is suitable for firm to stiff clays, but is often used to retrieve disturbed samples of weak rocks, soft or hard clay and also clayey sand or silts. This has been adopted for routine use, and usually consists of a 100mm internal diameter tube (U100), which is capable of taking soil samples up to 450mm in length. The undisturbed samples are sealed at each end using micro-crystalline wax to prevent drying.

The thin-walled open-tube sampler has been used on this contract, and consists of a 100mm internal diameter tube (UT100), which is capable of taking soil samples up to 450mm in length.

Standard penetration tests are generally carried out at frequencies similar to that of undisturbed sampling.

A2.1.4 Drive-in Window Sampler

The dynamic sampler, ref 9.9, consists generally of a track mounted window sampler and a series of cylindrical sample tubes, generally varying in diameter from 98mm to 35mm. A cutting shoe is fitted to the bottom of each tube, while samples are collected in plastic liners fitted inside the sample tube.

The borehole is extended by using progressively smaller diameter tubes.

A2.2 IN-SITU TESTS

A2.2.1 Standard Penetration Test

The Standard Penetration Test is carried out in accordance with the proposals recommended by BS EN ISO 22476-3 ref 9.7.

The standard penetration test, **SPT**, covers the determination of the resistance of soils to the penetration of a split barrel sampler. A 50mm diameter split barrel sampler is driven 450mm into the soil using a 63.5kg hammer with a 760mm drop. The penetration resistance is expressed as the number of blows required to obtain 300mm penetration below an initial seating drive of 150mm through any disturbed ground at the bottom of the borehole. The number of blows to achieve the standard penetration of 300mm is reported as the 'N' value.

The 'N' value reported on the borehole logs is as measured but may be corrected for the energy ratio (E_r) of the specific test equipment to give a normalised N_{60} value.

E_r for the drilling apparatus used for this ground investigation is referenced within the exploratory hole records.

The test is generally carried out in fine soils, however, it may also be carried out in coarse granular soils, weak rocks and glacial tills using the same procedure as for the SPT but with a 50mm diameter, 60° apex solid cone replacing the split spoon sampler, **CPT.**

When attempting the standard penetration test in very dense material or weathered rocks it may be necessary to terminate the test before completion to prevent damage to the equipment. In these circumstances it is important to distinguish how the blow count relates to the penetration of the sampler. This may be achieved in the following manner:

- Where the seating drive has been completed, the test drive is terminated if 50 blows are reached before the full penetration of 300mm is achieved. The penetration for 50 blows is recorded and an approximate N value obtained by linear extrapolation of the number of blows for the partial test drive.

- If the seating drive of 150mm is not achieved within the first 25 blows, the penetration after 25 blows is recorded and the test drive then commenced.

- For tests in soft rocks, the test drive should be terminated after 100 blows where the penetration of 300mm has not been achieved.

The N-value obtained from the Standard Penetration Test may be used to assess the relative density of sands and gravels with the general descriptions as follows:

Term	SPT N-Value : Blows/300mm Penetration
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

A2.3 SAMPLES / TESTS

UT represents undisturbed 100mm diameter thin-wall sample, the number of blows to obtain the sample also recorded.

B represents large bulk disturbed samples

D represents small disturbed sample

ES represents environmental soil sample, consisting of amber jar, vial and plastic tub

W represents water sample

▽ represents water strike

▼ represents level to which water rose

A2.4 DESCRIPTION OF SOILS

A2.4.1 General

The procedures and principles given in BS EN ISO 14688 Parts 1 and 2, ref 9.10, supplemented by section 6 of BS 5930, ref. 9.5 have been used in the soil descriptions contained within this report.

SPT HAMMER CALIBRATION CERTIFICATE

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING UK LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	DART504
Test Date:	28/01/2022
Report Date:	28/01/2022
File Name:	DART504.spt
Test Operator:	MT

Instrumented Rod Data

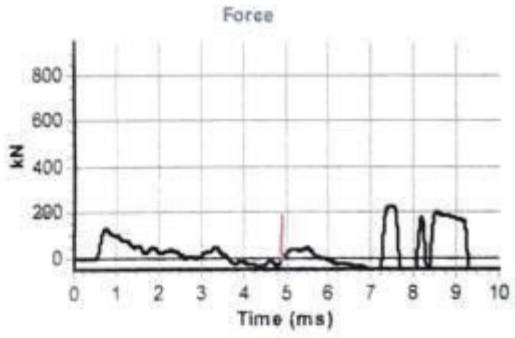
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7080
Accelerometer No.2:	11609

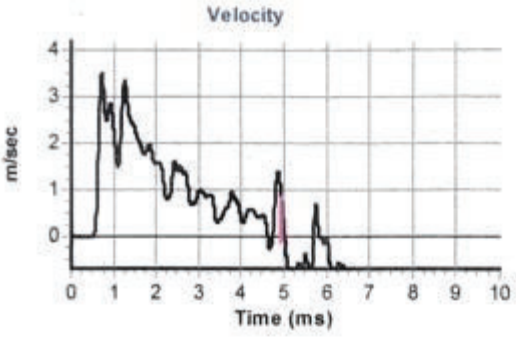
SPT Hammer Information

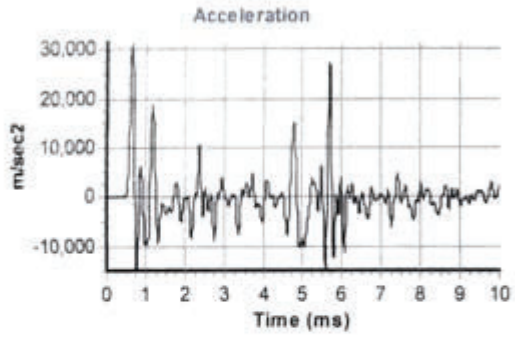
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

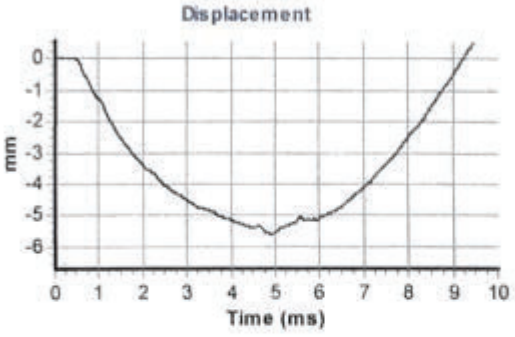
Comments / Location

P.M SAMPLING LTD - 78955









Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{rmeas} (J):	320

Energy Ratio E_r (%): **68**

Signed: M.TONER

Title: TRAINEE FITTER

The recommended calibration interval is 12 months

Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Hammer Ref:	PBD5
Test Date:	05/01/2022
Report Date:	
File Name:	PBD5.spt
Test Operator:	B HUNTER

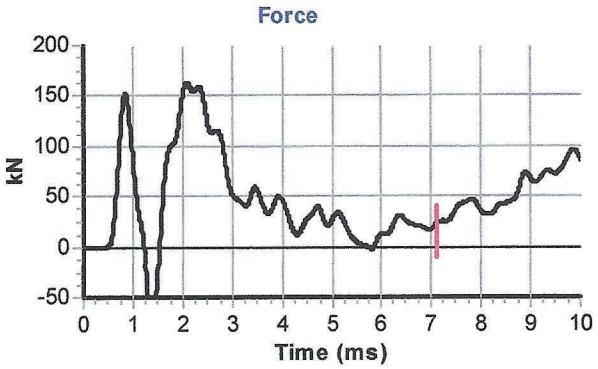
Instrumented Rod Data

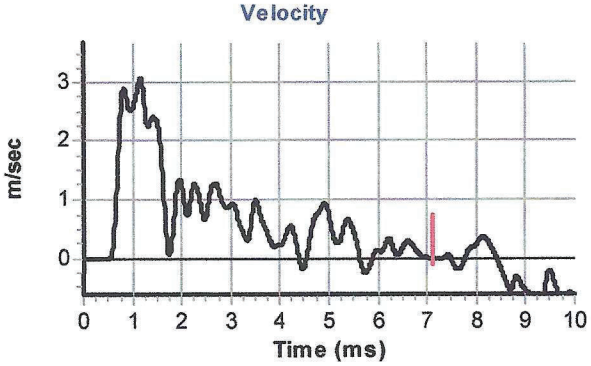
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	62901
Accelerometer No.2:	62902

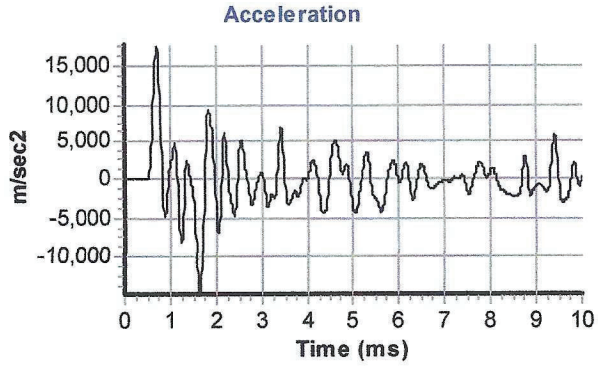
Hammer Information

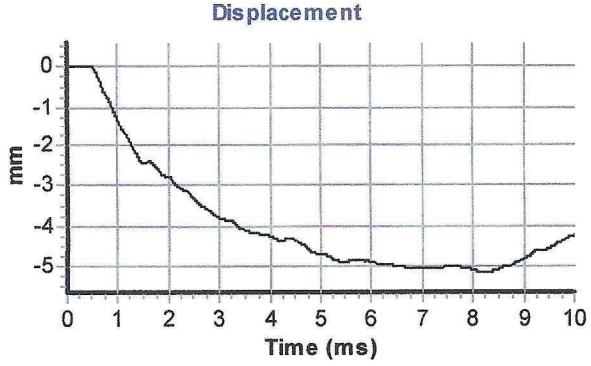
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
String Length L (m):	10.0

Comments / Location









Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	309

Energy Ratio E_r (%): **65**

Signed:

Title: Operations Manager

The recommended calibration interval is 12 months

CABLE PERCUSSION BOREHOLE RECORDS

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH01A**
Dates: 31/01/2022 - 01/02/2022	Client: Conwy Borough Council		Sheet 1 of 2
Cable Percussion Borehole Log	Location: 279635.49E 377697.61N	Ground level: 8.07mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.00 - 0.50	B1		7.87	0.20	MADE GROUND: Brown, sandy, angular, fine to coarse GRAVEL including limestone.			
0.20	ES2				MADE GROUND			
0.20		PID=0.0ppm						
0.50	ES3				MADE GROUND: Soft, brown, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine to coarse including brick, concrete and limestone.			
0.50		PID=1.0ppm						
1.00	ES4			(1.70)	MADE GROUND			
1.00		PID=0.0ppm						
1.20		SPT(S) N=7 (1,1/1,2,2,2)						
1.20 - 1.65	B5							
1.20 - 1.65	D6							
1.75	D7							
2.00		SPT(C) N=37 (6,7/10,10,9,8)	6.17	1.90	MADE GROUND: Stiff, dark grey, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine and medium including siltstone, brick and wood.			
2.00	ES8				MADE GROUND			
2.00 - 2.45	B9				*Between 1.90m and 10.00m: slight hydrocarbon odour.*			
2.00 - 2.45	D10							
2.00		PID=1.0ppm						
2.75	D11							
3.00		SPT(S) N=13 (10,12/8,2,2,1)						
3.00	ES12							
3.00		PID=1.0ppm						
4.00		SPT(S) N=12 (2,2/3,3,3,3)						
4.00	ES13							
4.00 - 4.75	B14							
4.00 - 4.75	D15							
4.00		PID=0.0ppm						
4.75	D16							
5.00		SPT(S) N=41 (2,3/8,10,11,12)						
5.00	ES17							
5.00 - 5.75	B18							
5.00 - 5.75	D19							
5.00		PID=1.0ppm						
5.75	D20							
6.00	ES22			(8.40)				
6.00 - 6.45	UT21	5 blows. 100% recovery						
6.00		PID=1.0ppm						
7.00		SPT(S) N=7 (1,1/1,2,2,2)			*Between 7.00m and 9.10m: becoming soft.*			
7.00	D26							
7.00	ES23							
7.00 - 7.45	B24							
7.00 - 7.45	D25							
7.00		PID=0.0ppm						
8.00	ES27							
8.00		PID=0.0ppm						
8.50	D28							
9.00		SPT(C) N=31 (8,9/9,8,6,8)			*Between 8.80m and 9.10m: driller notes plastic fragments.*			
9.00	ES29				*At 9.10m: driller notes timber obstruction.*			
9.00 - 9.45	B30							
9.00		PID=0.0ppm						
10.00	D31				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
8.80	9.00	30	
12.00	13.00	120	
13.50	15.00	60	
15.00	16.00	60	
16.00	16.50	60	

Borehole Diameter

Depth (m)	Dia (mm)
10.50	200
16.50	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
31/01	16:30	13.50	13.50	
01/02	08:00	13.50	13.50	
01/02	16:30	16.50	16.50	

Casing Diameter

Depth (m)	Dia (mm)
10.50	200
16.50	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
10.30			20	5.40	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	10.50	Plain	50
10.50	15.50	Slotted	50

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH01A**	
Dates: 31/01/2022 - 01/02/2022	Client: Conwy Borough Council	Sheet 2 of 2	
Cable Percussion Borehole Log	Location: 279635.49E 377697.61N	Ground level: 8.07mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
			-2.23	10.30	MADE GROUND: Stiff, dark grey, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine and medium including siltstone, brick and wood.			
10.50		SPT(C) N=23 (4,7/5,6,6,6)			MADE GROUND			
10.50	ES32				Medium dense, dark grey, very sandy, rounded, fine to coarse GRAVEL including siltstone and limestone.			
10.50 - 10.95	B33				GLACIAL SAND AND GRAVEL			
10.50		PID=0.0ppm						
11.50	D35							
11.50	ES34							
11.50		PID=0.0ppm						
12.00		SPT(C) N=22 (3,4/5,5,6,6)						
12.00 - 12.45	B36							
				(5.20)				
13.00	D38							
13.00 - 13.45	B37							
13.50		SPT(C) N=27 (5,6/6,7,6,8)						
14.50	D39							
15.00		SPT(C) N=20 (6,5/5,5,5,5)						
15.00 - 15.45	B40							
			-7.43	15.50	Black, gravelly, coarse SAND. Gravel is subangular to subrounded, fine including siltstone. GLACIAL SAND AND GRAVEL			
16.00	D41			(1.00)				
16.50	B42		-8.43	16.50	End of Borehole at 16.50m			

11 12 13 14 15 16 17 18 19 20

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used:	Project:	Location ID:
Dando 2000	Brickworks Llandudno Junction	**BH02A**
Dates:	**Client:**	Sheet 1 of 2
28/01/2022 - 01/02/2022	Conwy Borough Council	

Cable Percussion Borehole Log	Location:	Ground level:	Logged by:	Vertical scale:	Project ID:
	279590.51E 377694.86N	7.88mOD	BL	1:50	2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.00 - 1.00	B1		7.68	0.20	MADE GROUND: Brown, clayey, sandy, angular ,fine to coarse GRAVEL including brick, limestone plastic and metal. MADE GROUND			
0.20	D3							
0.20	ES2							
0.20		PID=0.0ppm			MADE GROUND: Soft and firm, brown, sandy, gravelly CLAY. Gravel is angular fine to coarse including brick limestone, concrete, wood and metal. MADE GROUND			
0.50	ES4							
0.50		PID=0.0ppm						
1.00	ES5							
1.00		PID=0.0ppm						
1.20		SPT(C) N=13 (2,3/4,3,3,3)						
1.20 - 1.65	B6							
2.00		SPT(C) N=6 (1,1/1,1,2,2)		(3.50)				
2.00	ES7							
2.00 - 2.45	B8							
2.00		PID=0.0ppm						
2.50	D9							
3.00		SPT(C) N=5 (1,2/1,2,1,1)						
3.00	ES10							
3.00 - 3.45	B11							
3.00		PID=0.0ppm						
3.50	D12							
3.70	D13		4.18	3.70	MADE GROUND: Firm, brown with grey veins, thinly laminated, sandy slightly, gravelly CLAY. Gravel is angular to subangular including siltstone and wood. MADE GROUND			
4.00		SPT(C) N=16 (2,2/3,4,4,5)						
4.00	ES14							
4.00 - 4.50	B15			(1.10)				
4.00		PID=0.0ppm						
4.50	D16							
4.80	D17		3.08	4.80	MADE GROUND: Soft becoming firm, black, gravelly CLAY. Gravel is angular, fine to coarse including concrete, charcoal, coal, wood and metal fragments. MADE GROUND			
5.00		SPT(C) N=5 (1,0/1,1,1,2)						
5.00	ES18							
5.00 - 5.45	B19							
5.00		PID=0.0ppm						
5.50	D20							
6.00		SPT(C) N=8 (1,1/2,2,2,2)						
6.00	ES21							
6.00 - 6.45	B22							
6.00		PID=0.0ppm						
6.50	D23							
7.00	ES24							
7.00		PID=0.0ppm						
7.50		SPT(C) N=18 (1,2/3,4,5,6)		(5.70)				
7.50 - 7.95	B25							
8.00	ES26							
8.00		PID=0.0ppm						
8.50	D27							
9.00		SPT(C) N=15 (4,6/6,4,3,2)						
9.00	ES28							
9.00 - 9.45	B29							
9.00		PID=0.0ppm						
10.00	D31				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
19.10	19.30	40	

Borehole Diameter

Depth (m)	Dia (mm)
12.00	200
20.00	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
28/01	16:30	3.70	3.50	Dry
31/01	08:00	3.70	3.50	Dry
31/01	16:30	16.00	16.00	NR
01/02	08:00	16.00	16.00	5.80

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
12.00	200
20.00	150

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	11.50	Plain	50
11.50	20.00	Slotted	50

Checked by:	JT	IFA CP
Log status:	DRAFT	v01.01

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH02A**
Dates: 28/01/2022 - 01/02/2022	Client: Conwy Borough Council		Sheet 2 of 2
Cable Percussion Borehole Log	Location: 279590.51E 377694.86N	Ground level: 7.88mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend		Groundwater: Water Strike	Groundwater: Backfill/ Installation
10.00	ES30				MADE GROUND: Soft becoming firm, black, gravelly CLAY. Gravel is angular, fine to coarse including concrete, charcoal, coal, wood and metal fragments.				
10.00		PID=0.0ppm							
10.50		SPT(S) N=10 (1,1/2,2,3,3)	-2.62	10.50	MADE GROUND				
10.50	D33				Soft and firm, locally stiff, brown, sandy CLAY. Laboratory and drillers note silty. GLACIAL TILL				
10.50 - 10.95	B32								
10.50 - 10.95	D34						11		
11.00	ES35								
11.00		PID=0.0ppm							
12.00	ES37								
12.00 - 12.45	UT36	35 blows. 100% recovery			*At 12.00m: laboratory notes high strength.*		12		
12.00		PID=0.0ppm							
12.50	D38								
13.00	ES39								
13.00		PID=0.0ppm					13		
				(5.60)					
13.50		SPT(S) N=10 (1,2/2,3,3,2)							
13.50 - 13.95	B40								
13.50 - 13.95	D41						14		
14.50	D42								
15.00		SPT(S) N=9 (1,1/2,2,3,2)							
15.00 - 15.45	B43						15		
15.00 - 15.45	D44								
16.00	D45								
16.10	D46		-8.22	16.10 (0.30)	Black, fine SAND. GLACIAL TILL		16		
16.40	D47		-8.52	16.40	Medium dense, black, gravelly, coarse SAND. Gravel is subrounded to rounded, fine to coarse including siltstone. GLACIAL SAND AND GRAVEL				
16.50		SPT(C) N=28 (3,6/6,7,7,8)							
16.50 - 16.95	B49								
16.50 - 16.95	C48						17		
17.50	D50								
18.00		SPT(C) N=16 (2,2/4,4,4,4)					18		
18.00 - 18.45	B51			(3.60)					
19.00	D52						19		
19.50		SPT(C) N=23 (4,4/6,4,6,7)							
19.50 - 19.95	B53								
20.00	D54		-12.12	20.00	End of Borehole at 20.00m		20		

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
01/02	16:30	20.00	20.00	NR

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH03A**
Dates: 26/01/2022 - 28/01/2022	Client: Conwy Borough Council		Sheet 1 of 3
Cable Percussion Borehole Log	Location: 279682.00E 377649.18N	Ground level: 7.65mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.00 - 0.50	B1				MADE GROUND: Grey, sandy, angular, fine to coarse GRAVEL including brick and limestone. MADE GROUND			
0.20	ES2							
0.50	ES3			(1.00)	*Below 0.50m: gravel including concrete.*			
			6.65	1.00				
1.10	ES4				MADE GROUND: Firm, brown, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine to coarse including brick, limestone and concrete. MADE GROUND			
1.20		SPT(C) N=11 (1,2/2,2,3,4)						
1.20 - 1.65	B5							
1.20 - 1.65	D6							
1.75	D7							
2.00		SPT(C) N=15 (2,6/5,4,3,3)						
2.00	ES8			(2.20)				
2.00 - 2.45	B10							
2.00 - 2.45	B9							
2.75	D11							
3.00		SPT(C) N=4 (2,1/1,1,1,1)						
3.00	ES12		4.45	3.20				
3.00 - 3.45	B13				MADE GROUND: Soft with pockets of firm, dark grey, sandy, gravelly CLAY with wood fragments. Gravel is angular to subangular, fine to coarse including brick, concrete and metal. Sand includes ash. MADE GROUND			
3.00 - 3.45	D14							
3.75	D15							
4.00		SPT(C) N=7 (3,1/1,2,2,2)			*Below 4.00m: strong sweet chemical odour (creosote).*			
4.00 - 4.45	B16							
4.00 - 4.45	D17				*Below 4.50m: large pieces of metal within the arisings.*			
4.75	D18							
5.00		SPT(C) 50 (25 for 145mm/50 for 50mm)						
5.00 - 5.45	B19							
5.00 - 5.45	B20							
5.50 - 6.00	B21							
6.00		SPT(C) N=7 (3,3/1,2,2,2)						
6.00 - 6.45	B22							
6.00 - 6.45	D23							
				(9.70)				
7.00	D24				*At 7.00m: becoming slightly gravelly.*			
7.50		SPT(S) N=8 (1,1/2,2,2,2)						
7.50 - 7.95	B25							
7.50 - 7.95	D26							
8.00	ES27							
8.50	D28							
9.00		SPT(C) N=8 (0,1/1,2,2,3)						
9.00	ES29							
9.00 - 9.45	B30							
9.00 - 9.45	D31				*At 9.50m: becoming firm.*			
10.00	D33				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
5.10	5.30	30	
17.00	17.50	60	
18.00	19.00	60	
19.00	19.50	60	

Borehole Diameter

Depth (m)	Dia (mm)
15.00	150
19.80	150

Casing Diameter

Depth (m)	Dia (mm)
15.00	200
19.50	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
26/01	16:30	7.50	7.50	Dry
27/01	08:00	7.50	7.50	Dry
27/01	16:30	18.00	18.00	NR
28/01	08:00	18.00	18.00	NR

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
16.90	16.90		20	9.00	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	13.50	Plain	50
13.50	19.50	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH03A**	
Dates: 26/01/2022 - 28/01/2022	Client: Conwy Borough Council	Sheet 2 of 3	
Cable Percussion Borehole Log	Location: 279682.00E 377649.18N	Ground level: 7.65mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
10.00	ES32				MADE GROUND: Soft with pockets of firm, dark grey, sandy, gravelly CLAY with wood fragments. Gravel is angular to subangular, fine to coarse including brick, concrete and metal. Sand includes ash. MADE GROUND			
10.50		SPT(C) N=12 (1,1/2,3,3,4)						
10.50 - 10.95	B34							
10.50 - 10.95	D35							
11.00	ES36							
11.50	D37							
12.00		SPT(S) N=15 (2,2/3,4,4,4)						
12.00 - 12.45	B38							
12.00 - 12.45	D39							
			-5.25	12.90				
13.00	D41				Firm, reddish brown, slightly gravelly, sandy CLAY. Gravel is subrounded to rounded, fine to coarse including sandstone and siltstone. GLACIAL TILL			
13.00	ES40							
13.50 - 13.95	UT42	10 blows. 100% recovery			*At 13.50m: laboratory notes low strength.*			
14.00	ES43							
14.50	D44							
				(4.00)				
15.00		SPT(S) N=23 (3,3/5,6,6,6)						
15.00 - 15.45	D45							
16.00	D46							
16.50		SPT(S) N=13 (2,3/3,4,3,3)			*At 16.50m: laboratory notes slightly sandy, slightly clayey SILT.*			
16.50 - 16.95	B47							
16.50 - 16.95	D48		-9.25	16.90	Medium dense, grey, gravelly, silty, fine and medium SAND. Gravel is subrounded to rounded, fine to coarse including mudstone. GLACIAL TILL			
17.00	D49							
				(2.10)				
18.00		SPT(C) N=21 (2,3/6,5,5,5)			*At 18.00m: interchanging bands of soft clay.*			
18.00 - 18.45	B50							
18.00 - 18.50	D51							
			-11.35	19.00	Very dense, grey, sandy, angular, fine to coarse GRAVEL including mudstone. GLACIAL SAND AND GRAVEL			
				(0.80)				
19.50		SPT(S) 50 (7,7/50 for 275mm)						
19.50 - 19.80	D52		-12.15	19.80	End of Borehole at 19.80m			
					Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
28/01	16:30	19.80	19.50	NR

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used:	Project:	Location ID:
Dando 2000	Brickworks Llandudno Junction	**BH03A**
Dates:	**Client:**	Sheet 3 of 3
26/01/2022 - 28/01/2022	Conwy Borough Council	

Cable Percussion Borehole Log	Location:	Ground level:	Logged by:	Vertical scale:	Project ID:
	279682.00E 377649.18N	7.65mOD	BL	1:50	2230642

Samples & In Situ Testing			Strata Details					Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend		Water Strike	Backfill/ Installation
19.60		SPT(S) 50 (6,12/50 for 50mm)							

21 22 23 24 25 26 27 28 29 30

Chiselling				Borehole Diameter		Boring Progress				
From (m)	To (m)	Time (mins)	Remarks	Depth (m)	Dia (mm)	Date	Time	Depth (m)	Cased (m)	Water (m)

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter		Water Strikes						Monitoring Installations			
Depth (m)	Dia (mm)	Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH04A**	
Dates: 02/02/2022	Client: Conwy Borough Council	Sheet 1 of 2	
Cable Percussion Borehole Log	Location: 279795.26E 377599.80N	Ground level: 7.38mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend
0.00 - 0.50	B1		7.28	0.10	MADE GROUND: Brown, sandy, angular fine to coarse GRAVEL including brick, limestone, tarmacadam. With medium cobble content of angular brick.	
0.20	ES2				MADE GROUND	
0.50	ES3				MADE GROUND: Firm brown, sandy, gravelly CLAY with medium cobble content. Gravel is angular to subangular, fine to coarse including brick, concrete and siltstone. Cobbles are angular of brick.	
1.00	ES4				MADE GROUND	
1.20		SPT(S) N=10 (1,2/2,2,3,3)				
1.20 - 1.65	B5					
1.20 - 1.65	D6					
1.75	D7			(3.20)		
2.00		SPT(S) N=11 (3,2/4,3,2,2)				
2.00	ES8					
2.00 - 2.45	B9					
2.00 - 2.45	D10					
2.75	D11					
3.00		SPT(S) N=42 (3,9/10,11,11,10)				
3.00	ES14		4.08	3.30	MADE GROUND: Soft, brown, slightly gravelly, slightly sandy SILT with medium cobble content. Gravel is angular to subangular, fine to coarse including concrete. Cobbles are angular of concrete.	
3.00 - 3.45	B12				MADE GROUND	
3.00 - 3.45	D13				*Between 3.30m and 5.40m: driller notes concrete obstruction being advanced with borehole.*	
4.00		SPT(C) 50 (10,15/50 for 135mm)				
4.00 - 4.45	B15					
4.00 - 4.45	B16					
5.00		SPT(C) N=43 (25 for 100mm/25,10,6,2)				
5.00 - 5.45	B17					
5.50	D18			(4.70)		
6.00		SPT(S) N=8 (3,3/2,2,2,2)				
6.00	ES21					
6.00 - 6.45	B19					
6.00 - 6.45	D20					
6.75	D22					
7.00	ES23					
7.50		SPT(S) N=0 (1,0/0,0,0,0)				
7.50 - 7.95	D24					
			-0.62	8.00	MADE GROUND: Very loose becoming loose, brown, gravelly, silty, fine to coarse SAND. Gravel is subangular to subrounded, fine to coarse including siltstone.	
					MADE GROUND	
9.00		SPT(C) N=7 (1,1/1,2,2,2)		(1.80)	*At 9.00m: laboratory notes very sandy, slightly clayey, silty, fine to coarse GRAVEL.*	
9.00 - 9.45	B25					
9.00 - 9.45	B26					
			-2.42	9.80 (0.30)	MADE GROUND: Brown, gravelly, coarse SAND. Gravel is	
10.00	D27				Continued next sheet	

Groundwater: Water Strike; Backfill/ Installation

Chiselling

From (m)	To (m)	Time (mins)	Remarks
3.50	3.50	60	
10.10	10.10	60	

Borehole Diameter

Depth (m)	Dia (mm)
7.50	200
10.10	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
02/02	16:30	10.10	10.10	

Remarks: Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
7.50	200
10.10	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
7.90			20	4.00	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	50
1.00	3.00	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH04A**	
Dates: 02/02/2022	Client: Conwy Borough Council	Sheet 2 of 2	
Cable Percussion Borehole Log	Location: 279795.26E 377599.80N	Ground level: 7.38mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details					Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend		Water Strike	Backfill/ Installation
			-2.72	10.10	MADE GROUND: Brown, gravelly, coarse SAND. Gravel is angular, coarse including concrete. MADE GROUND *At 10.10m: due to obstruction at 3.50m casing has been deviated and will not allow any further casing to be added.* End of Borehole at 10.10m				

Chiselling			
From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter	
Depth (m)	Dia (mm)

Boring Progress				
Date	Time	Depth (m)	Cased (m)	Water (m)

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter	
Depth (m)	Dia (mm)

Water Strikes					
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Monitoring Installations			
Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH04B**
Dates: 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 2
Cable Percussion Borehole Log	Location: 279794.64E 377597.30N	Ground level: 7.35mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
			7.25	0.10	MADE GROUND: Brown, sandy, angular, fine to coarse GRAVEL including brick, limestone, tarmacadam. With medium cobble content of angular brick. MADE GROUND			
				(1.90)	MADE GROUND: Firm, brown, sandy, gravelly CLAY with medium cobble content. Gravel is angular to subangular, fine to coarse including brick, concrete and siltstone. Cobbles are angular of brick. MADE GROUND			
			5.35	2.00	MADE GROUND: Firm, brown, slightly gravelly, sandy CLAY with medium cobble content. Gravel is angular to subangular, fine to coarse including concrete. Cobbles are angular of concrete. MADE GROUND			
					Between 3.50m and 4.50m: driller notes chasing down concrete obstruction.			
				(5.20)				
			0.15	7.20	MADE GROUND: Medium dense, brown, gravelly, coarse SAND. Gravel is angular and coarse including concrete. MADE GROUND			
				(3.20)				
9.00		SPT(C) N=17 (3,3/3,4,5,5)						
9.00 - 9.45	B1							
10.00	D2				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
3.50	4.00	60	
8.50	9.00	60	

Borehole Diameter

Depth (m)	Dia (mm)
15.50	200

Casing Diameter

Depth (m)	Dia (mm)
10.50	200

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
03/02	16:30	15.50	10.50	NR

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
3.50		10.40	50	3.00	
15.10			20	4.00	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	11.00	Plain	50
11.00	14.00	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH04B**	
Dates: 03/02/2022	Client: Conwy Borough Council	Sheet 2 of 2	
Cable Percussion Borehole Log	Location: 279794.64E 377597.30N	Ground level: 7.35mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
					MADE GROUND: Medium dense, brown, gravelly, coarse SAND. Gravel is angular and coarse including concrete.			
			-3.05	10.40	MADE GROUND			
10.50 10.50 - 10.95	B3	SPT(C) N=24 (4,4/5,5,7,7)			Stiff, brown, sandy, slightly gravelly CLAY. Gravel is subrounded to rounded, fine to coarse including siltstone. GLACIAL TILL			
11.50	D4							
12.00 12.00 - 12.45	B5	SPT(C) N=28 (4,7/5,5,8,10)						
				(4.70)				
13.00	D6							
13.50 13.50 - 13.95	B7	SPT(C) N=22 (2,2/5,7,4,6)						
14.50	D8							
15.00 15.00 - 15.45	B9	SPT(C) N=32 (6,6/8,8,8,8)	-7.75	15.10				
				(0.40)	Dense, grey, gravelly, coarse SAND. Gravel is rounded, fine to coarse including siltstone. GLACIAL SAND AND GRAVEL			
			-8.15	15.50	*At 15.50m: driller notes blowing sands.*			
					End of Borehole at 15.50m			

11 12 13 14 15 16 17 18 19 20

Chiselling				Borehole Diameter		Boring Progress					Remarks:
From (m)	To (m)	Time (mins)	Remarks	Depth (m)	Dia (mm)	Date	Time	Depth (m)	Cased (m)	Water (m)	SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter		Water Strikes						Monitoring Installations			
Depth (m)	Dia (mm)	Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH05A**
Dates: 24/01/2022 - 26/01/2022	Client: Conwy Borough Council		Sheet 1 of 3
Cable Percussion Borehole Log	Location: 279622.95E 377601.08N	Ground level: 7.08mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend
0.00 - 0.50	B1		6.98	0.10	MADE GROUND: TARMACADAM.	
0.20	ES2				MADE GROUND	
				(0.60)	MADE GROUND: Brown, sandy, angular to subangular, fine to coarse GRAVEL including brick concrete and limestone. With medium cobble content of angular concrete.	
0.50	ES3					
			6.38	0.70	MADE GROUND	
1.00	ES4				MADE GROUND: Firm, brown and black, slightly gravelly, sandy CLAY. Gravel is angular to subrounded, fine to coarse including sandstone, charcoal and siltstone.	
1.20		SPT(C) N=13 (1,1/1,1,6,5)			MADE GROUND	
1.20 - 1.65	B5					
1.20 - 1.65	D6					
1.75	D7					
1.75	D8			(2.30)		
2.00	ES10				*Below 2.00m: strong hydrocarbon odour noted.*	
2.00 - 2.45	UT9	21 blows. 80% recovery				
2.75	D11					
3.00		SPT(S) N=18 (2,4/3,5,5,5)	4.08	3.00	MADE GROUND: Firm, grey, slightly gravelly, sandy CLAY with fragments of wood, metal and plastic. Gravel is angular to subrounded, fine to coarse including brick, siltstone and ceramics. Strong hydrocarbon odour noted.	
3.00	ES12				MADE GROUND	
3.00 - 3.45	B13					
3.00 - 3.45	D14					
3.75	D15					
4.00		SPT(C) N=5 (1,1/1,1,2,1)				
4.00 - 4.45	B16					
4.00 - 4.45	D17					
4.75	D18					
5.00	ES20				*At 5.00m: becoming soft, large amounts of plastic, wood and metal materials.*	
5.00 - 5.45	UT19	8 blows. 100% recovery				
5.75	D21					
6.00		SPT(C) N=0 (0,0/0,0,0,0)				
6.00	ES22					
6.00 - 6.45	B23					
				(7.40)		
7.00	D25					
7.00	ES24					
7.50		SPT(S) N=4 (2,1/1,1,1,1)				
7.50 - 7.95	B26					
7.50 - 7.95	D27					
					At 8.00m: arising mostly plastic bags.	
8.50	D28					
9.00		SPT(S) N=4 (2,2/1,1,1,1)				
9.00	ES29					
9.00 - 9.45	B30					
10.00	D31				Continued next sheet	

Groundwater: Water Strike; Backfill/ Installation

Chiselling

From (m)	To (m)	Time (mins)	Remarks
10.00	10.40	45	
10.50	11.00	90	
18.00	18.50	60	
19.00	20.00	90	

Borehole Diameter

Depth (m)	Dia (mm)
15.00	200
20.00	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
24/01	16:30	10.50	10.50	
25/01	08:00	10.50	10.50	
25/01	16:30	18.60	18.50	
26/01	08:00	18.60	18.50	

Remarks: Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
15.00	200
20.00	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.50	5.50	15.00	20	5.00	
16.60	16.60		20	5.00	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	4.00	Plain	50
4.00	12.50	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH05A**
Dates: 24/01/2022 - 26/01/2022	Client: Conwy Borough Council		Sheet 2 of 3
Cable Percussion Borehole Log	Location: 279622.95E 377601.08N	Ground level: 7.08mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend		Groundwater: Water Strike	Groundwater: Backfill/ Installation
			-3.32	10.40	MADE GROUND: Firm, grey, slightly gravelly, sandy CLAY with fragments of wood, metal and plastic. Gravel is angular to subrounded, fine to coarse including brick, siltstone and ceramics. Strong hydrocarbon odour noted. MADE GROUND				
10.50		SPT(C) 50 (25 for 75mm/50 for 85mm)							
10.50 - 10.95	B32								
11.00	ES33			(1.70)	MADE GROUND: Very dense, black, sandy, angular, fine to coarse GRAVEL including brick, metal, wood, plastic ceramics and concrete. With medium cobble content of angular brick. MADE GROUND		11		
11.50	D34								
12.00		SPT(S) N=5 (2,3/1,1,2,1)	-5.01	12.10			12		
12.00	B37				MADE GROUND: Soft, brown, slightly gravelly, sandy CLAY with metal and wood fragments. Gravel is angular to subrounded, fine to coarse, including sandstone. MADE GROUND				
12.00	ES35								
12.00 - 12.45	B36			(1.30)					
13.00	D39						13		
13.00	ES38								
13.50		SPT(S) N=13 (2,2/2,3,4,4)	-6.32	13.40	Soft, brown, thinly laminated, sandy CLAY. GLACIAL TILL				
13.50 - 13.95	B40						14		
14.50	D43								
14.50	ES41								
14.50	ES42								
15.00 - 15.45	UT44	5 blows. 100% recovery		(3.20)			15		
16.00	D45						16		
16.50		SPT(S) N=0 (0,0/0,0,0,0)	-9.52	16.60	Very loose becoming medium dense, grey, silty, fine to medium SAND. with occasional bands of soft, grey, sandy silt. GLACIAL TILL				
16.50 - 16.95	B46								
16.50 - 16.95	D47						17		
17.50	D48			(1.90)					
18.00		SPT(C) N=18 (3,4/4,4,5,5)					18		
18.00	B50								
18.00 - 18.45	B49		-11.42	18.50	Medium dense, dark grey, sandy, subrounded to rounded, fine to coarse GRAVEL including sandstone and siltstone. GLACIAL SAND AND GRAVEL				
19.00	D51			(1.95)			19		
19.50 - 19.95	B52								
20.00		SPT(C) N=20 (4,4/5,5,5,5)			Continued next sheet		20		

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
26/01	16:30	20.45	20.00	

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH05A**	
Dates: 24/01/2022 - 26/01/2022	Client: Conwy Borough Council	Sheet 3 of 3	
Cable Percussion Borehole Log	Location: 279622.95E 377601.08N	Ground level: 7.08mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details					Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend		Water Strike	Backfill/ Installation
20.00 - 20.45	B53		-13.36	20.45	Medium dense, dark grey, sandy, subrounded to rounded, fine to coarse GRAVEL including sandstone and siltstone. GLACIAL SAND AND GRAVEL				
					End of Borehole at 20.45m				

21 22 23 24 25 26 27 28 29 30

Chiselling			
From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter	
Depth (m)	Dia (mm)

Boring Progress				
Date	Time	Depth (m)	Cased (m)	Water (m)

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter	
Depth (m)	Dia (mm)

Water Strikes					
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Monitoring Installations			
Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH06A**	
Dates: 04/02/2022 - 07/02/2022	Client: Conwy Borough Council	Sheet 1 of 2	
Cable Percussion Borehole Log	Location: 279730.27E 377562.43N	Ground level: 6.20mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.00 - 0.50	B1		6.10	0.10	MADE GROUND: Brown, sandy, angular, fine to coarse GRAVEL including limestone, concrete and brick. MADE GROUND			
0.20	ES2							
0.50	ES3				MADE GROUND: Firm, brown, sandy, gravelly CLAY with high cobble content. Gravel is angular to subangular, fine to coarse including brick, concrete and limestone. Cobbles are of angular brick and concrete.			
1.00 - 1.45	ES4			(1.80)	MADE GROUND			
1.20		SPT(C) N=25 (2,2/7,6,6,6)						
1.20 - 1.65	B5							
1.76	D6							
2.00		SPT(C) N=15 (2,2/3,4,4,4)	4.30	1.90	MADE GROUND: Firm, brown, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine to coarse including siltstone, brick and concrete. MADE GROUND			
2.00	ES7							
2.00 - 2.45	B8							
2.75	D9							
3.00		SPT(C) N=13 (2,3/3,3,3,4)						
3.00	ES10							
3.75	D11				*Below 3.70m: becomes soft.*			
4.00		SPT(C) N=8 (1,2/2,2,2,2)		(4.00)				
4.00 - 4.45	B13							
4.00 - 4.45	ES12							
4.75	D14							
5.00		SPT(C) N=7 (1,1/1,2,2,2)						
5.00	ES15							
5.00 - 5.45	B16							
5.75	D17							
6.00		SPT(S) N=4 (1,0/1,1,1,1)	0.30	5.90	MADE GROUND: Very loose becoming medium dense, brown, gravelly, silty, fine to coarse SAND. Gravel is angular to subangular, fine to coarse including concrete and siltstone. MADE GROUND			
6.00	ES18							
6.00 - 6.45	B19							
6.75	D20							
7.00	ES21							
7.50		SPT(S) N=2 (1,1/0,1,0,1)						
7.50 - 7.95	B22							
8.00	ES23			(8.00)				
9.00		SPT(C) N=12 (3,3/2,3,3,4)						
9.00 - 9.45	B25							
9.00 - 9.45	ES24							
10.00	D27				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)
10.50	200
18.50	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
04/02	16:30	6.00	6.00	
07/02	08:00	6.00	6.00	
07/02	16:30	18.50	18.00	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
10.50	200
18.00	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
6.00	6.00	10.20	20	5.50	
18.00	15.00		20	5.00	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	4.00	Plain	50
4.00	12.00	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH06A**	
Dates: 04/02/2022 - 07/02/2022	Client: Conwy Borough Council	Sheet 2 of 2	
Cable Percussion Borehole Log	Location: 279730.27E 377562.43N	Ground level: 6.20mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
10.00	ES26				MADE GROUND: Very loose becoming medium dense, brown, gravelly, silty, fine to coarse SAND. Gravel is angular to subangular, fine to coarse including concrete and siltstone. MADE GROUND			
10.50		SPT(C) N=25 (4,5/6,6,7,7,6)						
10.50 - 10.95	B28							
11.00	ES29							
11.50	D30							
12.00		SPT(S) N=25 (4,5/6,6,7,7,6)						
12.00 - 12.45	B31							
13.00	D33							
13.00	ES32							
13.50		SPT(C) N=23 (5,5/6,6,5,5,6)						
13.50 - 13.95	B34							
			-7.70	13.90				
14.00	D35				Firm, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded, fine to coarse including siltstone. GLACIAL TILL			
15.00 - 15.45	UT36	14 blows. 100% recovery						
16.00	D37			(4.10)				
16.50		SPT(S) N=21 (4,5/5,5,5,6)						
16.50 - 16.95	B38							
17.00	D39							
			-11.80	18.00	Grey, gravelly, coarse SAND. Gravel is subrounded to rounded, fine to coarse including siltstone. GLACIAL SAND AND GRAVEL			
				(0.50)				
			-12.30	18.50	*At 18.50m: driller notes blowing gravels.* End of Borehole at 18.50m			

Chiselling				Borehole Diameter		Boring Progress					Remarks:
From (m)	To (m)	Time (mins)	Remarks	Depth (m)	Dia (mm)	Date	Time	Depth (m)	Cased (m)	Water (m)	SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter		Water Strikes						Monitoring Installations			
Depth (m)	Dia (mm)	Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH07A**
Dates: 01/02/2022 - 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 2
Cable Percussion Borehole Log	Location: 279770.97E 377522.17N	Ground level: 5.37mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
			5.27	0.10	MADE GROUND: TARMACADAM. MADE GROUND			
0.20	ES1							
0.20 - 1.00	B2		5.07	0.30	MADE GROUND: Light brown, sandy, angular fine to coarse GRAVEL including limestone. MADE GROUND			
0.30	D3							
0.50	ES4			(1.00)	MADE GROUND: Firm, brown, sandy, gravelly CLAY. Gravel is angular, fine to coarse including brick, concrete and limestone. MADE GROUND			
1.00	ES5							
1.20		SPT(C) N=14 (9,7/4,4,3,3)						
1.20 - 1.65	B6		4.07	1.30	MADE GROUND: Soft, grey, slightly gravelly, sandy CLAY. Gravel is angular, fine to coarse including siltstone and brick. MADE GROUND			
1.30	D7							
2.00		SPT(C) N=19 (2,4/4,6,4,5)		(1.30)				
2.00	ES8							
2.00 - 2.45	B9							
2.60	D10		2.77	2.60	MADE GROUND: Very soft, black, slightly gravelly SILT with regular pieces of plastic. Gravel is angular, fine and medium including brick. MADE GROUND			
3.00		SPT(C) N=6 (1,1/1,2,1,2)		(0.90)				
3.00	ES11							
3.00 - 3.45	B12							
3.50	D13		1.87	3.50	Very soft, blueish grey, sandy SILT. TIDAL FLAT DEPOSITS			
4.00		SPT(S) N=4 (1,0/1,1,1,1)						
4.00	ES14							
4.00 - 4.45	B15			(1.55)				
4.00 - 4.45	D16							
4.50	D17							
5.00		SPT(S) N=4 (1,1/1,1,1,1)	0.32	5.05				
5.00	ES18				Very soft, blueish grey with brown banded, plastic amorphous silty PEAT with thin (>5cm) bands of spongy brown pseudofibrous peat and strong organic odour. TIDAL FLAT DEPOSITS			
5.00 - 5.45	B19			(0.55)				
5.00 - 5.45	D20							
			-0.23	5.60	Firm, black, fibrous PEAT with abundant un-decomposed wood. TIDAL FLAT DEPOSITS			
6.00		SPT(C) N=33 (12,13/14,8,6,5)						
6.00	ES21							
6.00 - 6.45	B22			(1.50)				
6.50	D23							
6.50	D24							
7.10	D25		-1.73	7.10	Soft, spongy, light grey, thinly layered pseudofibrous PEAT with strong organic odour. TIDAL FLAT DEPOSITS			
7.50		SPT(S) N=9 (1,2/2,2,3,2)		(0.60)				
7.50 - 7.95	B26		-2.33	7.70	Very soft, blueish grey, slightly gravelly, very sandy SILT. Gravel is rounded, fine and medium including siltstone. TIDAL FLAT DEPOSITS			
7.50 - 7.95	D27							
8.00	D28			(1.10)				
8.80	D29		-3.43	8.80	Firm, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded, fine to coarse including siltstone. GLACIAL TILL			
9.00		SPT(C) N=14 (6,5/4,3,3,4)						
9.00 - 9.45	B30							
9.20	D31							
9.70	D32				*At 9.70m: becoming firm.*			
					Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
5.60	6.00	60	

Borehole Diameter

Depth (m)	Dia (mm)
4.50	200
19.00	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
02/02	08:00	1.20		
02/02	16:30	15.00	8.00	
03/02	08:00	15.00	8.00	13.80
03/02	16:30	19.00	18.00	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
4.50	200
18.00	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
2.60			20	1.70	
17.50	15.00		20	11.20	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	6.00	Plain	50
6.00	19.00	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction	Location ID: **BH07A**	
Dates: 01/02/2022 - 03/02/2022	Client: Conwy Borough Council	Sheet 2 of 2	
Cable Percussion Borehole Log	Location: 279770.97E 377522.17N	Ground level: 5.37mOD	Logged by: BL	Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
					Firm, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded, fine to coarse including siltstone. GLACIAL TILL			
10.50 - 10.95	UT33	43 blows. 100% recovery			*At 10.50m: laboratory notes medium strength*			
11.00	D34							
12.00		SPT(S) N=17 (2,3/3,4,4,6)						
12.00 - 12.45	B35							
12.00 - 12.45	D36							
13.00	D37							
13.50 - 13.95	UT38	4 blows. 100% recovery		(8.70)				
14.00	D39							
15.00		SPT(S) N=14 (1,2/2,3,5,4)						
15.00 - 15.45	B40							
15.00 - 15.45	D41							
16.00	D42							
16.50 - 16.95	UT43	38 blows. 90% recovery						
17.00	D44							
17.50	D45		-12.13	17.50	Medium dense, dark grey, gravelly, coarse SAND . Gravel is subrounded to rounded, fine and medium including siltstone. GLACIAL SAND AND GRAVEL			
18.00		SPT(S) N=16 (25,2/3,4,4,5)						
18.00 - 18.45	B46			(1.50)				
18.00 - 18.45	D47							
19.00	D48		-13.63	19.00	End of Borehole at 19.00m			

Chiselling			
From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter	
Depth (m)	Dia (mm)

Boring Progress				
Date	Time	Depth (m)	Cased (m)	Water (m)

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter	
Depth (m)	Dia (mm)

Water Strikes					
Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks

Monitoring Installations			
Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH08A**
Dates: 03/02/2022 - 07/02/2022	Client: Conwy Borough Council		Sheet 1 of 2
Cable Percussion Borehole Log	Location: 279715.91E 377493.78N	Ground level: 5.10mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Groundwater: Water Strike	Groundwater: Backfill/ Installation
0.00 - 1.00	B1							
0.20	D2		4.90	0.20	MADE GROUND: Brown, sandy, angular, fine to coarse GRAVEL including brick, limestone and concrete.			
0.20	ES3				MADE GROUND			
0.50	ES4				MADE GROUND: Firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to subrounded, fine and medium including siltstone.			
1.00	ES5			(1.40)	MADE GROUND			
1.20		SPT(C) N=18 (4,6/5,6,4,3)						
1.20 - 1.65	B6							
			3.50	1.60	MADE GROUND: Soft, brown, slightly sandy, gravelly CLAY with high cobble content. Gravel is angular to subangular, fine to coarse including siltstone. Cobbles are angular of siltstone.			
2.00		SPT(C) N=9 (8,6/3,2,2,2)		(0.90)	MADE GROUND			
2.00 - 2.45	B9							
2.20	D7							
2.20	ES8							
2.50	D10		2.60	2.50	Firm, brown, slightly gravelly, sandy CLAY. Gravel is subangular to subrounded, fine to coarse including siltstone. GLACIAL TILL			
3.00		SPT(C) N=48 (10,13/9,14,16,9)						
3.00	ES11							
3.00 - 3.45	B12							
3.50	D13							
4.00		SPT(C) N=18 (4,3/3,4,5,6)		(3.10)				
4.00	D15							
4.00	ES14							
4.00 - 4.45	B16							
4.50	D17							
5.00 - 5.45	UT18	24 blows. 80% recovery						
5.50	D19							
			-0.50	5.60	Soft, brown, sandy SILT with rare gravels of subrounded, fine and medium siltstone. GLACIAL TILL			
5.80	D20				*Between 6.00m and 8.00m: thin bands of silty, fine and medium SAND.*			
6.00		SPT(S) N=9 (2,2/2,2,2,3)						
6.00 - 6.45	B21							
6.00 - 6.45	D22							
7.00	D23			(3.10)	*Below 7.00m: becoming very sandy.*			
7.50 - 7.95	UT24	21 blows. 100% recovery						
8.00	D25							
8.70	D26		-3.60	8.70	Firm, brown, slightly gravelly, sandy CLAY. Gravel is subrounded to rounded, fine to coarse including siltstone and quartz. GLACIAL TILL			
9.00		SPT(S) N=8 (1,2/1,2,2,3)						
9.00 - 9.45	B27							
9.00 - 9.45	D28							
10.00	D29				Continued next sheet			

Chiselling

From (m)	To (m)	Time (mins)	Remarks
2.50	2.80	40	

Borehole Diameter

Depth (m)	Dia (mm)
9.00	200
20.00	150

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
03/02	16:30	1.20		
04/02	08:00	1.20		
04/02	16:30	13.50	13.50	
07/02	08:00	13.50	13.50	6.20

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)
9.00	200
20.00	150

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
13.10	12.00		20	11.20	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	5.00	Plain	50
5.00	20.00	Slotted	50

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Dando 2000	Project: Brickworks Llandudno Junction		Location ID: **BH08A**
Dates: 03/02/2022 - 07/02/2022	Client: Conwy Borough Council		Sheet 2 of 2
Cable Percussion Borehole Log	Location: 279715.91E 377493.78N	Ground level: 5.10mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
					Firm, brown, slightly gravelly, sandy CLAY. Gravel is subrounded to rounded, fine to coarse including siltstone and quartz. GLACIAL TILL			
10.50 - 10.95	UT30	41 blows. 100% recovery						
11.00	D31			(4.40)				
12.00		SPT(S) N=18 (2,3/4,4,5,5)						
12.00 - 12.45	B32							
12.00 - 12.45	D33							
13.10	D34		-8.00	13.10 (0.30)	Soft, brown, sandy SILT. GLACIAL TILL			
13.40	D35		-8.30	13.40	Medium dense, brown, sandy, clayey, rounded fine to coarse GRAVEL including siltstone. GLACIAL TILL			
13.50		SPT(C) N=10 (1,2/2,2,3,3)						
13.50 - 13.95	B36							
14.50	D37			(1.60)				
15.00		SPT(C) N=14 (2,2/3,3,4,4)	-9.90	15.00	Soft and firm, brown, slightly gravelly, slightly sandy CLAY. Gravel is subangular to subrounded, fine to coarse including mudstone and mixed igneous lithologies. GLACIAL TILL			
15.00 - 15.45	B38							
16.00	D39			(1.50)				
16.50	D41		-11.40	16.50	Brown, silty, fine SAND. GLACIAL TILL			
16.50 - 16.95	UT40	41 blows. No recovery						
18.00		SPT(S) N=35 (4,4/6,8,10,11)	-12.90	18.00	Soft, blueish grey, gravelly SILT. Gravel is subangular to subrounded, fine to coarse including siltstone. GLACIAL TILL			
18.00	D44		-13.10	18.20	Medium dense and dense, grey, gravelly, fine to coarse SAND. Gravel is subrounded to rounded, fine to coarse including siltstone. GLACIAL SAND AND GRAVEL			
18.00 - 18.45	B42							
18.00 - 18.45	D43							
18.20	D45			(1.80)				
19.50		SPT(C) N=22 (2,3/4,5,6,7)						
19.50 - 19.95	B46							
20.00	D47		-14.90	20.00	End of Borehole at 20.00m			

Chiselling

From (m)	To (m)	Time (mins)	Remarks

Borehole Diameter

Depth (m)	Dia (mm)

Boring Progress

Date	Time	Depth (m)	Cased (m)	Water (m)
07/02	16:30	20.00	20.00	

Remarks:

SPT Hammer: PBD5 Energy Ratio: 65%

Casing Diameter

Depth (m)	Dia (mm)

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA CP v01.01
Log status:	DRAFT	

DYNAMIC SAMPLING BOREHOLE RECORDS

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH01B**
Dates: 02/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279636.85E 377699.85N	Ground level: 8.17mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.10	D1		8.02	0.15	MADE GROUND: Light brown, sandy, angular fine to coarse GRAVEL including limestone. MADE GROUND			
0.20	D4							
0.20	ES2							
0.20 - 1.00	B3				MADE GROUND: Firm, brown, sandy, gravelly CLAY. Gravel is angular, fine to coarse including brick, concrete and limestone. With medium cobble content of angular brick and concrete.			
0.20		PID=0.0ppm						
0.50	D6							
0.50	ES5			(1.50)	MADE GROUND			
0.50		PID=0.0ppm						
1.00	D8				*At 1.20m: barrel refusal on concrete obstruction (cobble).*			
1.00	ES7							
1.00		PID=0.0ppm						
1.20		SPT(S) 50 (3,4/50 for 200mm)	6.52	1.65	End of Borehole at 1.65m			
1.20	D9							

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks

Remarks:
Service inspection pit hand excavated from GL to 1.20m.
Terminated after barrel refusal on concrete obstruction (cobble).

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH01BA**
Dates: 02/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279636.42E 377700.37N	Ground level: 8.18mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.00 - 2.00	B1		7.98	0.20	MADE GROUND: Brown, sandy, angular, fine to coarse GRAVEL including limestone and brick MADE GROUND			
0.30 - 1.00	B2				MADE GROUND: Firm, brown, sandy, gravelly CLAY with medium cobble content including angular brick and concrete. Gravel is angular to subangular, fine to coarse including brick, limestone, concrete and glass . MADE GROUND			
1.20		SPT(S) N=8 (4,4/2,2,2,2)		(2.10)				
1.20 - 1.65	D3							
1.50	D4							
1.50	ES5							
2.00		SPT(S) N=10 (3,2/2,2,3,3)			*Below 2.00m: becoming grey and thinly laminated.*			
2.00 - 2.45	D6		5.88	2.30				
2.50	D7				MADE GROUND: Soft, grey, sandy, slightly gravelly SILT. Gravel is angular, fine and medium including brick. MADE GROUND			
2.50	ES8							
3.00		SPT(S) N=5 (1,1/1,2,1,1)						
3.00 - 3.45	D9							
3.50	D10							
3.50	ES11							
4.00		SPT(S) N=6 (2,2/1,2,1,2)		(3.15)				
4.00 - 4.45	D12							
4.50	ES13							
5.00		SPT(S) N=8 (2,2/2,2,2,2)						
5.00 - 5.45	D14							
			2.73	5.45	End of Borehole at 5.45m			

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks
1.20	2.00		80	
2.00	3.00		90	
3.00	4.00		90	
4.00	5.00		90	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	4.50	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH02B**
Dates: 02/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279590.96E 377697.48N	Ground level: 7.95mOD / Logged by: BL / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.20	ES1		7.72	0.23	MADE GROUND: Light brown, sandy, angular, fine to coarse GRAVEL including limestone.			
0.30 - 1.20	B2				MADE GROUND			
0.50	D4				MADE GROUND: Firm, brown, sandy, gravelly CLAY. Gravel is angular to subangular, fine to coarse including brick, concrete and wood.			
0.50	ES3				MADE GROUND			
1.00	D6				*At 0.23m: Hessian geotextile.*			
1.00	ES5							
1.20		SPT(S) N=16 (3,3/4,4,4,4)						
1.20 - 1.65	D7							
1.50	D9							
1.50	ES8			(3.22)				
2.00		SPT(S) N=8 (2,3/2,2,2,2)			*Between 2.00m and 3.00m: becoming soft at 3.00m.*			
2.00 - 2.45	D10							
2.50	D12							
2.50	ES11							
3.00		SPT(S) N=23 (3,7/6,7,5,5)			*At 3.00m: becoming stiff*			
3.00 - 3.45	D13							
			4.50	3.45	End of Borehole at 3.45m			

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	3.00	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH03B**
Dates: 02/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279682.44E 377651.37N	Ground level: 7.65mOD / Logged by: MD / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.20	ES1				MADE GROUND: Light grey, sandy GRAVEL. Gravel is angular, fine to coarse including limestone.			
0.30	D2			(0.80)	MADE GROUND			
0.50	B4							
0.50	ES3							
0.80	D6		6.85	0.80				
0.80 - 1.00	ES5				MADE GROUND: Firm, brown, slightly sandy, very gravelly CLAY with occasional cobbles of brick. Gravel is subrounded to rounded, fine and medium including mudstone, siltstone and sandstone.			
1.20		SPT(S) N=11 (6,3/3,3,2,3)		(0.90)	MADE GROUND			
1.20 - 1.65	D7							
1.70 - 1.80	D8		5.95	1.70				
1.80 - 2.00	ES9				MADE GROUND: Firm, grey, silty, sandy, gravelly CLAY with occasional cobbles of brick and lenses of dark grey organic matter. Gravel is angular to rounded, fine to coarse including sandstone, mudstone and brick.			
2.00		SPT(S) N=7 (2,1/2,1,2,2)			MADE GROUND			
2.00 - 2.45	D10							
2.70 - 2.80	D11							
2.80 - 3.00	ES12							
3.00		SPT(S) N=14 (2,2/3,4,4,3)						
3.00 - 3.45	D13							
3.45 - 4.00	ES14							
3.45 - 4.00	ES15			(3.75)				
4.00		SPT(S) N=10 (4,2/2,3,2,3)						
4.00 - 4.45	D16							
4.45 - 5.00	ES17							
5.00		SPT(S) N=9 (2,1/2,3,2,2)						
			2.20	5.45	End of Borehole at 5.45m			

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks
1.20	2.00		100	
2.00	3.00		80	
3.00	4.00		70	
4.00	5.00		40	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	5.00	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH05B**
Dates: 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279621.32E 377602.41N	Ground level: 7.14mOD / Logged by: MD / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
			7.04	0.10	MADE GROUND: TARMACADAM.			
0.20	ES1			(0.30)	MADE GROUND			
0.30	D2		6.74	0.40	MADE GROUND: Light grey and brown, sandy GRAVEL. Gravel is angular to subangular, fine to coarse including limestone.			
0.50	ES3							
0.60	D5			(0.50)	MADE GROUND			
0.60 - 0.80	B4				MADE GROUND: Brown and grey, sandy, very clayey GRAVEL and COBBLES. Gravel is angular to subrounded, fine to coarse including mudstone, brick, clinker and limestone. Cobbles are subrounded including mudstone and siltstone.			
1.00	D8		6.24	0.90	MADE GROUND			
1.00	ES6							
1.00 - 1.10	D9							
1.00 - 1.20	B7							
1.20		SPT(S) N=27 (4,5/7,6,7,7)			MADE GROUND: Dark grey, slightly gravelly, very sandy CLAY with lenses of fine to coarse, brown and grey sand and occasional plastic bags and metal pieces. Gravel is subangular to subrounded, fine and medium including mudstone and siltstone.			
1.20 - 1.65	D11							
1.20 - 1.80	B10							
1.80 - 2.00	ES12			(2.30)	MADE GROUND			
2.00		SPT(S) N=14 (2,2/3,2,3,6)						
2.00 - 2.45	D13							
2.45 - 2.80	D14							
2.80 - 3.00	ES15							
3.00		SPT(S) N=18 (4,4/3,6,4,5)						
3.00 - 3.45	D17							
3.00 - 3.80	B16		3.94	3.20	MADE GROUND: Firm, greenish grey, very gravelly CLAY. Gravel is angular, fine to coarse including mudstone. MADE GROUND			
3.80 - 4.00	ES18							
4.00		SPT(S) N=15 (3,2/3,4,4,4)						
4.00 - 4.45	D19			(2.25)				
5.00		SPT(S) N=23 (2,2/4,5,6,8)						
			1.69	5.45	End of Borehole at 5.45m			

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks
1.20	2.00		100	
2.00	3.00		890	
3.00	4.00		70	
4.00	5.00		40	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

Strike (m)	Cased (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
5.00			20	2.85	

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	5.00	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH06B**
Dates: 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279731.66E 377559.40N	Ground level: 6.14mOD / Logged by: MD / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.20	ES1			(0.30)	MADE GROUND: Light grey and brown, very sandy GRAVEL with medium cobble content. Gravel is angular to subangular, fine to coarse including limestone. Cobbles are angular including limestone.			
0.30	D2		5.84	0.30	MADE GROUND			
0.50	ES3				MADE GROUND: Firm, grey, slightly sandy, gravelly CLAY with medium cobble content. Gravel is angular to subrounded, fine to coarse including sandstone, mudstone and limestone. Cobbles are angular including limestone.			
0.50 - 1.00	B4				MADE GROUND			
1.00	ES5			(1.50)				
1.20		SPT(S) N=11 (2,2/2,2,3,4)						
1.20 - 1.65	D6							
1.65 - 1.80	D7							
1.80 - 2.00	ES8		4.34	1.80	MADE GROUND: Firm, brown, slightly sandy, gravelly CLAY. Gravel is subangular to rounded, fine to coarse including mudstone and siltstone.			
2.00		SPT(S) N=8 (2,2/2,2,2,2)			MADE GROUND			
2.00 - 2.45	D9			(1.20)				
2.80 - 3.00	ES10							
3.00		SPT(S) N=5 (1,2/1,1,2,1)	3.14	3.00	MADE GROUND: Very soft becoming stiff, brown and grey, slightly sandy CLAY with frequent black decomposed, vegetation and timber pieces.			
3.00 - 3.45	D12				MADE GROUND			
3.00 - 4.00	ES11							
4.00		SPT(S) N=17 (2,3/4,4,4,5)						
4.00 - 4.45	D14							
4.00 - 5.00	ES13			(2.45)				
5.00		SPT(S) N=18 (3,3/3,5,4,6)						
5.00 - 5.45	D15							
			0.70	5.45	End of Borehole at 5.45m			

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	2.50	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH07B**
Dates: 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279771.59E 377529.47N	Ground level: 5.46mOD / Logged by: MD / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
			5.36	0.10	MADE GROUND: TARMACADAM.			
0.20	ES1			(0.30)	MADE GROUND			
0.30	D2		5.06	0.40	MADE GROUND: Grey and brown, sandy GRAVEL with medium cobble content. Gravel is angular, fine to coarse including limestone. Cobbles are angular including timber.			
0.50	B4							
0.50	ES3			(0.70)	MADE GROUND			
1.00	ES5				MADE GROUND: Grey, sandy, gravelly CLAY with low cobble content. Gravel is angular to subrounded, fine to coarse including mudstone and sandstone. Cobbles are angular including limestone.			
1.10 - 1.50	D6		4.36	1.10				
1.20		SPT(S) N=30 (4,3/6,7,9,8)						
1.20 - 1.65	D7			(0.60)	MADE GROUND			
1.50 - 1.70	ES8							
			3.76	1.70	MADE GROUND: Firm, greenish grey, sandy, gravelly CLAY with black decayed plant material. Gravel is subangular to subrounded, fine and medium including siltstone and mudstone.			
					MADE GROUND			
					End of Borehole at 1.70m			

1 2 3 4 5 6 7 8 9 10

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks

Remarks:
Service inspection pit hand excavated from GL to 1.20m.
Window sample hole terminated at 1.70m, refusal on obstruction. Sampler shoe damaged, cutting edge folded over.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	0.60	Plain	19
0.60	1.60	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: Competitor Dart	Project: Brickworks Llandudno Junction		Location ID: **BH08B**
Dates: 03/02/2022	Client: Conwy Borough Council		Sheet 1 of 1
Dynamic Sample Borehole Log	Location: 279714.85E 377491.30N	Ground level: 5.06mOD / Logged by: MD / Vertical scale: 1:50	Project ID: 2230642

Samples & In Situ Testing			Strata Details				Groundwater	
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Water Strike	Backfill/ Installation
0.20	ES1				MADE GROUND: Light grey, very sandy GRAVEL with medium cobble content. Gravel is angular, fine to coarse including limestone. Cobbles are angular to subangular including limestone. MADE GROUND			
0.40	D2			(0.70)				
0.50	ES3							
0.70 - 1.10	B4		4.36	0.70	MADE GROUND: Red brown and grey, sandy GRAVEL with high cobble content. Gravel is angular, fine to co0arse including limestone and brick. Cobbles are angular including brick. MADE GROUND			
1.00	ES5			(0.40)				
1.20		SPT(S) N=11 (3,2/2,3,3,3)	3.96	1.10	MADE GROUND: Firm, brown mottled grey, slightly sandy, gravelly CLAY. Gravel is subangular to rounded, fine to coarse including sandstone, mudstone and quartz. MADE GROUND			
1.20 - 1.65	D6							
1.65 - 1.80	D7							
1.80 - 2.00	ES8							
2.00		SPT(S) N=13 (2,2/2,4,3,4)						
2.00 - 2.45	D9			(2.35)				
2.45 - 2.80	D10							
2.80 - 3.00	ES11							
3.00		SPT(S) N=23 (3,4/4,5,6,8)						
3.00 - 3.45	D12							
			1.61	3.45	End of Borehole at 3.45m			

Dynamic Sample Recovery

Top (m)	Base (m)	Dia (mm)	Recovery %	Remarks
1.20	2.00		100	
2.00	3.00		80	

Remarks:
Service inspection pit hand excavated from GL to 1.20m.

SPT Hammer: DART504 Energy Ratio: 68%

Water Strikes

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

Monitoring Installations

Top (m)	Base (m)	Pipe Type	Dia (mm)
0.00	1.00	Plain	19
1.00	3.00	Slotted	19

Checked by:	JT	IFA DS v01.01
Log status:	DRAFT	

TRIAL PIT RECORDS

IAN FARMER ASSOCIATES

Plant used: Hand Tools	Project: Brickworks Llandudno Junction	Location ID: **HP01C**	
Dates: 03/02/2022	Client: Conwy Borough Council	Sheet 1 of 1	
Trial Pit Log	Location: 279639.13E 377708.61N	Ground level:	Logged by: MD / Vertical scale: 1:25 / Contract ID: 2230642

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
				0.10	MADE GROUND: Soft, brown, sandy CLAY with frequent rootlets (Topsoil).				
0.20	ES1				MADE GROUND				
0.30	D2				MADE GROUND: Firm, brown, sandy, gravelly CLAY with low cobble content. Gravel is angular to rounded, fine to coarse including sandstone, quartz, mudstone and siltstone. With occasional waste material, rope, plastics and cloth.				
0.50	ES3				MADE GROUND				
0.50 - 1.00	B4			(1.10)					
1.00	ES5						1		
				1.20	End of Trial Pit at 1.20m				
							2		
							3		
							4		
							5		

Termination: Target depth.

Stability: Walls remained stable.

Dimensions (Length m x Width m): 0.30 x 0.30

Remarks:
Service inspection pit hand excavated from GL to 1.20m.
Co-ordinates determined using HoleBASE mapping tool.

Water Strikes

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

Checked by:	JT	IFA TP v01.01
Status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: JCB - 3CX	Project: Brickworks Llandudno Junction		Location ID: **TP01**
Dates: 31/01/2022	Client: Conwy Borough Council		Sheet 1 of 1
Trial Pit Log	Location: 279639.91E 377649.88N	Ground level: 7.48mOD / Logged by: BL / Vertical scale: 1:25	Contract ID: 2230642

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
0.00 - 0.20	B1		7.24	0.25	MADE GROUND: Light brown, sandy, angular fine to coarse GRAVEL Including brick, limestone and concrete. MADE GROUND				
0.20	D3								
0.20	ES2								
0.20		PID=0.0ppm							
0.50	D5				MADE GROUND: Firm, thinly laminated, brown, slightly sandy, gravelly CLAY with low cobble content and single boulder of angular concrete. Gravel is angular, fine to coarse including sandstone, brick, concrete. Cobbles are angular including brick and siltstone. MADE GROUND				
0.50	ES4				*At 0.25m: Hessian geo-textile at strata boundary.*				
0.80 - 1.50	B6								
0.80		PID=0.0ppm							
1.00	D8						1		
1.00	ES7								
1.00		PID=0.0ppm		(1.75)					
					At 1.40m: becoming blueish grey.				
1.60 - 2.00	B9								
1.80	D11								
1.80	ES10								
1.80		PID=0.0ppm							
			5.48	2.00	End of Trial Pit at 2.00m		2		
							3		
							4		
							5		

Termination: Target depth.

Dimensions (Length m x Width m): 2.10 x 0.65

Stability: Walls remained stable

Remarks: Location cleared of buried services.

Water Strikes

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

Checked by:	JT	IFA TP v01.01
Status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: JCB - 3CX	Project: Brickworks Llandudno Junction		Location ID: **TP02**
Dates: 31/01/2022	Client: Conwy Borough Council		Sheet 1 of 1
Trial Pit Log	Location: 279682.90E 377656.70N	Ground level: 7.75mOD / Logged by: BL / Vertical scale: 1:25	Contract ID: 2230642

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
0.00 - 0.20	B1		7.52	0.23	MADE GROUND: Light brown, sandy, angular, fine to coarse GRAVEL including brick, limestone and concrete. MADE GROUND *At 0.00m: water seeping from surface.*				
0.20	D3								
0.20	ES2								
0.20		PID=0.0ppm							
0.50	D6				MADE GROUND: Firm, brown, slightly sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including siltstone, brick and concrete. MADE GROUND *At 0.23m: hessian geotextile at boundary. Between 0.23m and 0.40m: medium cobble content including angular siltstone and timber fragments.*				
0.50	ES4								
0.50 - 1.00	B5								
0.80		PID=0.0ppm							
1.00	D9			(1.77)			1		
1.00	ES7								
1.00 - 2.00	B8								
1.00		PID=0.0ppm							
1.80	10								
1.80		PID=0.0ppm							
			5.75	2.00	End of Trial Pit at 2.00m		2		
							3		
							4		
							5		

Termination: Target depth.

Stability: Walls remained stable

Dimensions (Length m x Width m): 2.10 x 0.60

Remarks: Location cleared of buried services.

Water Strikes

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

Checked by:	JT	IFA TP v01.01
Status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: JCB - 3CX	Project: Brickworks Llandudno Junction		Location ID: **TP03**
Dates: 31/01/2022	Client: Conwy Borough Council		Sheet 1 of 1
Trial Pit Log	Location: 279797.66E 377605.05N	Ground level: 7.57mOD / Logged by: BL / Vertical scale: 1:25	Contract ID: 2230642

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
0.00 - 0.20	B1		7.34	0.23	MADE GROUND: Light brown, sandy, angular, fine to coarse GRAVEL including limestone. MADE GROUND				
0.20	D2								
0.20	ES3								
0.20		PID=0.0ppm							
0.50	D6								
0.50	ES5								
0.50 - 1.20	B4				MADE GROUND: Firm, dark grey, sandy, gravelly CLAY with medium cobble and boulder content. Gravel is angular to subrounded, fine to coarse including brick, concrete and wood. Cobbles are angular including brick; boulders are angular including brick and concrete. MADE GROUND				
					At 0.23m: Hessian geotextile.				
0.80		PID=0.0ppm							
1.00	D7						1		
1.00	ES8								
1.00		PID=0.0ppm		(1.77)					
					At 1.20: becoming reddish brown.				
1.50 - 2.00	B9								
1.80	D10								
1.80	ES11								
1.80		PID=0.0ppm							
			5.57	2.00	End of Trial Pit at 2.00m		2		
							3		
							4		
							5		

Termination: Target depth.

Dimensions (Length m x Width m): 2.10 x 0.70

Stability: Walls remained stable

Remarks: Location cleared of buried services.

Water Strikes

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

Checked by:	JT	IFA TP v01.01
Status:	DRAFT	

IAN FARMER ASSOCIATES

Plant used: JCB - 3CX	Project: Brickworks Llandudno Junction		Location ID: **TP04**
Dates: 31/01/2022	Client: Conwy Borough Council		Sheet 1 of 1
Trial Pit Log	Location: 279665.31E 377558.32N	Ground level: 6.09mOD / Logged by: BL / Vertical scale: 1:25	Contract ID: 2230642

Samples & In Situ Testing			Strata Details						
Depth	Sample ID	Test Result	Level (mOD)	Depth (m) (Thickness)	Strata Description	Legend	Scale	Water Strike	Backfill/ Installation
0.00 - 0.23	B1		5.86	0.23	MADE GROUND: Light brown, sandy, angular, fine to coarse GRAVEL including brick, concrete and limestone. MADE GROUND				
0.20	D3								
0.20	ES2								
0.20		PID=0.0ppm							
0.50	B5			(1.27)	MADE GROUND: Firm, grey and brown, sandy, gravelly CLAY. Gravel is angular to subrounded, fine to coarse including brick, concrete and wood. MADE GROUND *At 0.23m: Hessian geotextile at boundary. Between 0.23m and 1.50m: regular pockets of black, clayey fine and medium SAND.*		1		
0.50	D7								
0.50	ES4								
0.50 - 1.50	B6								
0.80		PID=0.0ppm							
1.00	D9								
1.00	ES8								
1.00		PID=0.0ppm							
1.50 - 2.00	B10		4.59	1.50	MADE GROUND Soft, blueish grey, slightly gravelly, sandy CLAY. Gravel is angular to subangular, fine to coarse including siltstone. MADE GROUND				
1.80	D12			(0.50)					
1.80	ES11								
1.80		PID=0.0ppm							
			4.09	2.00	End of Trial Pit at 2.00m		2		
							3		
							4		
							5		

Termination: Target depth.

Stability: Walls remained stable

Dimensions (Length m x Width m): 1.80 x 0.60

Remarks: Location cleared of buried services.

Water Strikes

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

Checked by:	JT	IFA TP v01.01
Status:	DRAFT	

TRIAL PIT PHOTOGRAPHS

Trial Pit Photographs
TP01

Trial Pit Photographs
TP01

Trial Pit Photographs
TP01

Trial Pit Photographs
TP01

Trial Pit Photographs
TP02

Trial Pit Photographs
TP02

Trial Pit Photographs
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TP03

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Trial Pit Photographs
TP03

Trial Pit Photographs
TP03

Trial Pit Photographs
TP04

Trial Pit Photographs
TP04

Trial Pit Photographs
TP04

Trial Pit Photographs
TP04

APPENDIX 3

GEOTECHNICAL TESTS

APPENDIX 3

GENERAL NOTES ON LABORATORY TESTS

A3.1 Geotechnical Testing

A3.1.1 Geotechnical analysis was carried out to the testing procedures identified on the test reports.

IAN FARMER ASSOCIATES

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washington@ianfarmer.co.uk www.ianfarmer.co.uk

F.A.O.

Final Test Report - 2230642 / 1

Site:	Brickworks Llandudno Junction
Job Number:	2230642
Originating Client:	Conwy Borough Council
Originating Reference:	2230642
Date Sampled:	Not Given
Date Scheduled:	28/02/2022
Date Testing Started:	16/03/2022
Date Testing Finished:	29/03/2022

Previous Reports		Amendments	Date Issued

Amendments:

Authorised By:

Tim Robinson
Quality Supervisor

Report Issue Date: 29/03/2022

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 2

Determination of Water Content, Liquid Limit and Plastic Limit and Derivation of Plasticity and Liquidity Index

Borehole / Trial Pit	Depth (m)	Sample	Natural Water Content %	Sample Preparation Natural = Hand picked Sieved = Washed on 425µm			Liquid Limit %	Plastic Limit %	Plasticity Index %	Liquidity Index	Class	One-point PI Only		Description / Remarks
				Natural / Sieved	Passing %	Calc. WC %						Cone Penetration (mm)	Correction Factor	
BH01A	1.75	D7	23.7	Sieved	63	38	34	16	18	1.20	CL			Brown gravelly, sandy, silty CLAY
BH02A	12.00	UT36	16.5	Sieved	100	17	27	15	12	0.13	CL			Brown slightly sandy, silty CLAY
BH03A	3.75	D7	19.3	Sieved	89	22	45	24	21	-0.11	CI	20.6 20.6	0.9904	Brown slightly gravelly, slightly sandy, silty CLAY
BH04A	2.00	D9	19.6	Sieved	28	70	43	27	16	2.70	MI			Brown slightly sandy, gravelly CLAY/SILT
BH05A	1.75	D3	6.7	Sieved	60	11	22	12	10	-0.08	CL			Brown gravelly, sandy, silty CLAY
BH05A	2.00	UT4	10.7	Sieved	36	30	42	18	24	0.50	CI			Brown/Grey slightly sandy, silty, very gravelly CLAY
BH06A	1.76	D6	15.9	Sieved	60	26	27	15	12	0.95	CL			Brown gravelly, sandy, silty CLAY
BH07A	4.00	D16	59.1	Sieved	80	74	59	36	23	1.65	MH	21 21	0.9844	Brown sandy, clayey SILT
BH08A	3.50	D13	4.6	Sieved	48	9.7	30	16	14	-0.45	CL	20 20	1.0004	Brown slightly sandy, gravelly, silty CLAY

Method of Preparation: BS EN ISO 17892 : Part 1 : 2014 : Clause 5.1 Water content test preparation
BS EN ISO 17892 : Part 12 : 2018 : Clause 5.2 Specimen preparation for liquid and plastic limits

Method of Test: BS EN ISO 17892 : Part 1 : 2014 : Clause 5.2 Water content test execution
BS EN ISO 17892 : Part 12 : 2018 : Clause 5.3 Determination of liquid limit by the fall cone method. 80g / 30° Cone
BS EN ISO 17892 : Part 12 : 2018 : Clause 5.5 Determination of plastic limit

UKAS TESTING 1464

General Remarks: All samples tested with increasing water content, unless otherwise stated.
All samples tested to four-point method, unless the extra 'One-point PI Only' data is reported.

Results reported relate only to the samples tested.

IAN FARMER ASSOCIATES

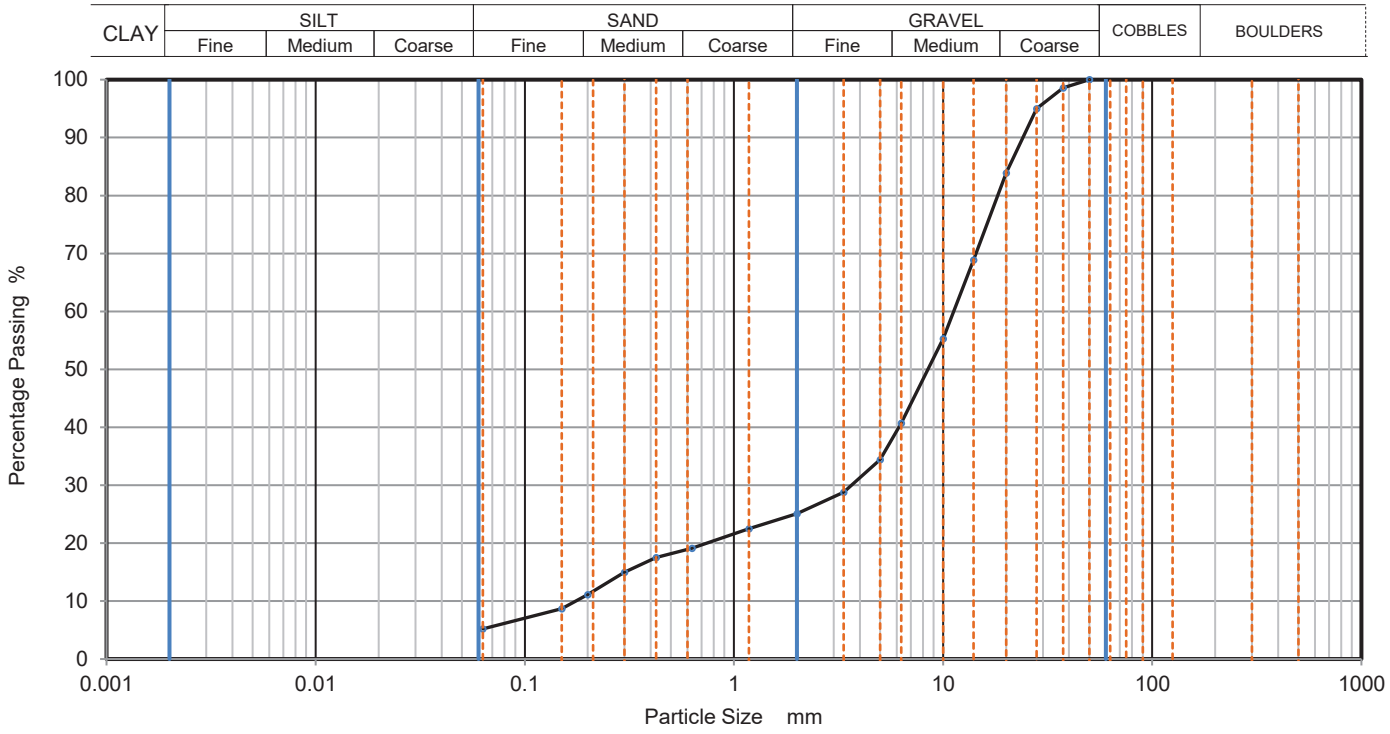
Laboratory Test Report 2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 3

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH01A	10.50	B33	Wet Sieve	Grey slightly silty, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
50	100		
37.5	99		
28	95		
20	84		
14	69		
10	55		
6.3	41		
5	34		
3.35	29		
2	25		
1.18	23		
0.63	19		
0.425	18		
0.3	15		
0.2	11		
0.15	9		
0.063	5		

Dry Mass of sample, g: 11397

Sample Proportions	% dry mass
Very coarse	0
Gravel	75
Sand	20
Fines <0.063mm	5

Grading Analysis		
D100	mm	50
D60	mm	11.2
D30	mm	3.66
D10	mm	0.175
Uniformity Coefficient		64
Curvature Coefficient		6.8

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

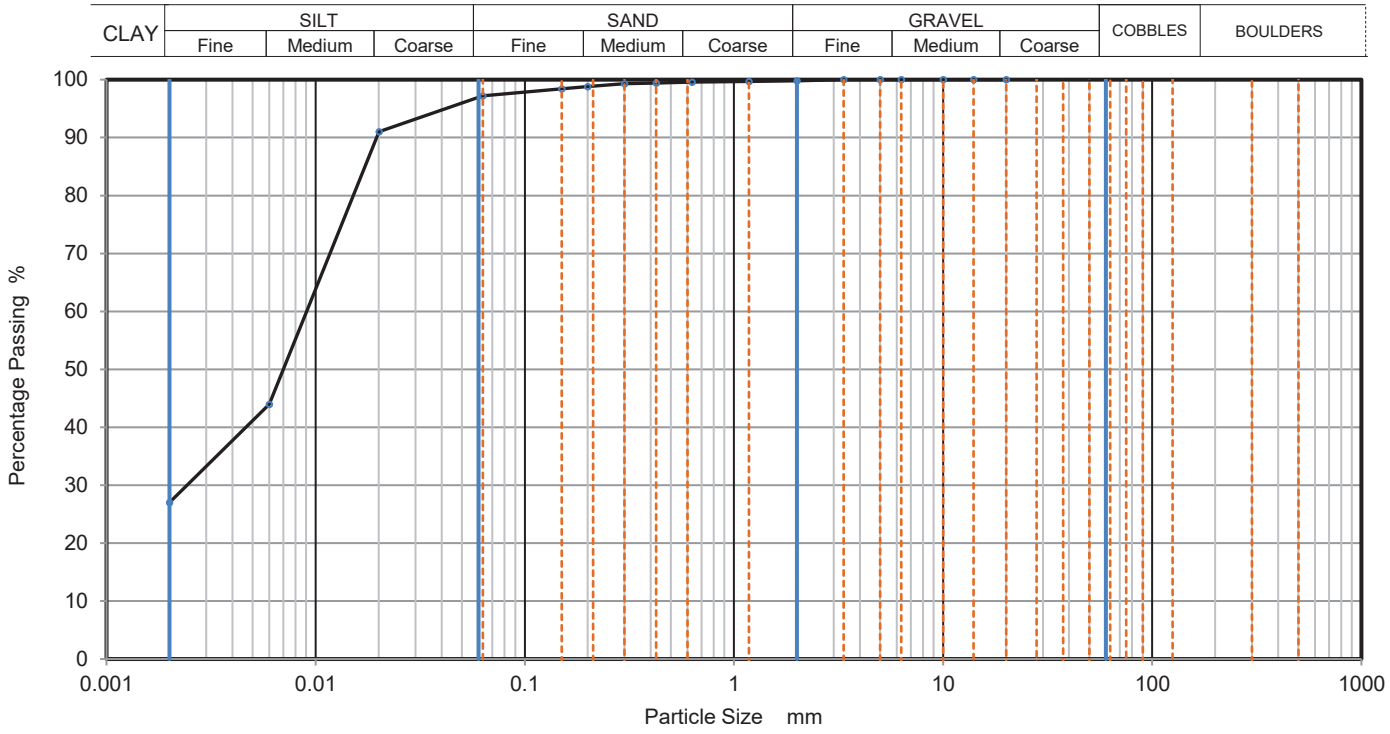
Laboratory Test Report 2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 4

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH03A	16.50	B24	Wet Sieve + Pipette	Brown clayey SILT



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0201	91
		0.0060	44
		0.0020	27
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100	Particle density	(assumed)
1.18	100	2.65	Mg/m3
0.63	100		
0.425	99		
0.3	99		
0.2	99		
0.15	98		
0.063	97		

Dry Mass of sample, g: 562

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	3
Silt	70
Clay	27

Grading Analysis		
D100	mm	5
D60	mm	0.00901
D30	mm	0.00238
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test
BS EN 17892:Part4:2016, clause 5.4.2 Preparation of samples for pipette test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method
BS EN 17892:Part4:2016, clause 5.4.3 Determination of sedimentation by pipette method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

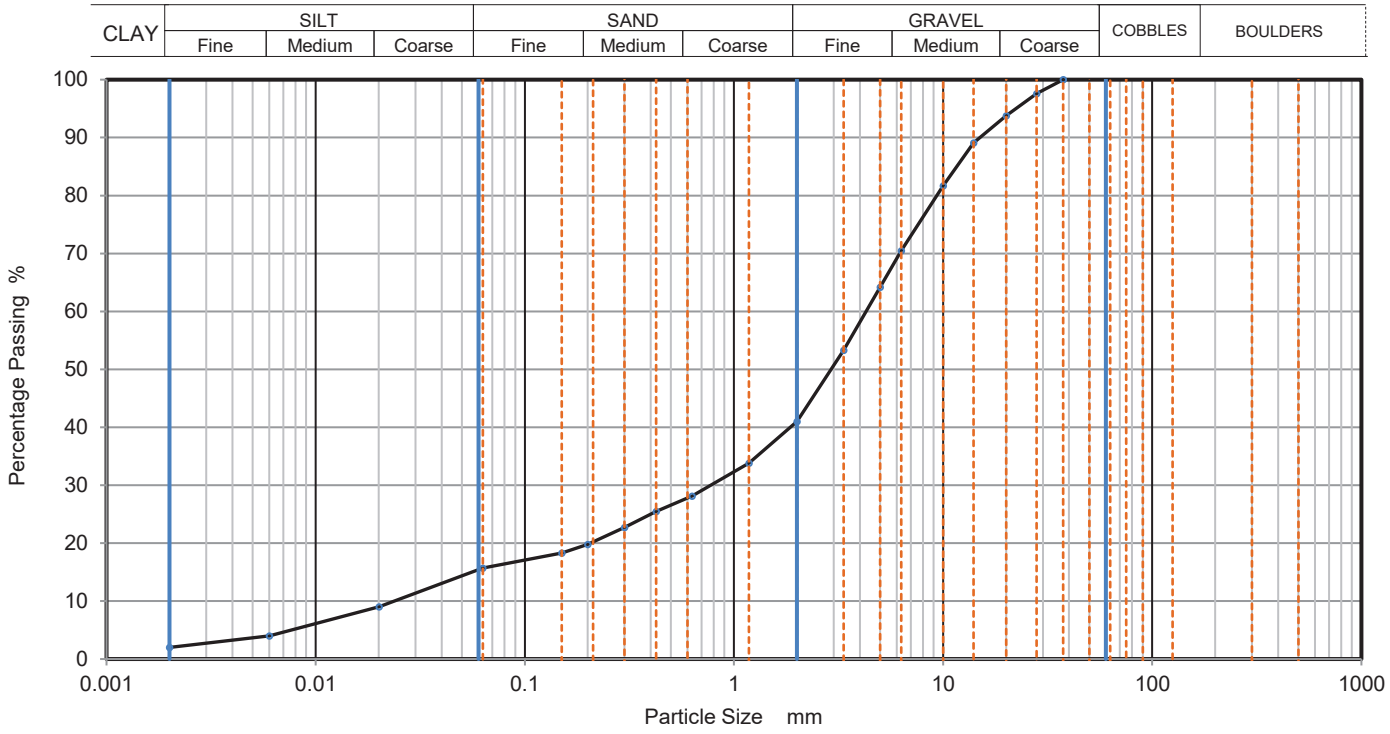
Laboratory Test Report 2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 3

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH04A	9.00	B25	Wet Sieve + Pipette	Brown silty, sandy GRAVEL



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0201	9
		0.0060	4
		0.0020	2
37.5	100		
28	98		
20	94		
14	89		
10	82		
6.3	71		
5	64		
3.35	53		
2	41	Particle density (assumed)	
1.18	34	2.65	Mg/m3
0.63	28		
0.425	26		
0.3	23		
0.2	20		
0.15	18		
0.063	16		

Dry Mass of sample, g: 2996

Sample Proportions	% dry mass
Very coarse	0
Gravel	59
Sand	25
Silt	14
Clay	2

Grading Analysis		
D100	mm	37.5
D60	mm	4.29
D30	mm	0.776
D10	mm	0.0252
Uniformity Coefficient		170
Curvature Coefficient		5.6

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test
BS EN 17892:Part4:2016, clause 5.4.2 Preparation of samples for pipette test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method
BS EN 17892:Part4:2016, clause 5.4.3 Determination of sedimentation by pipette method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

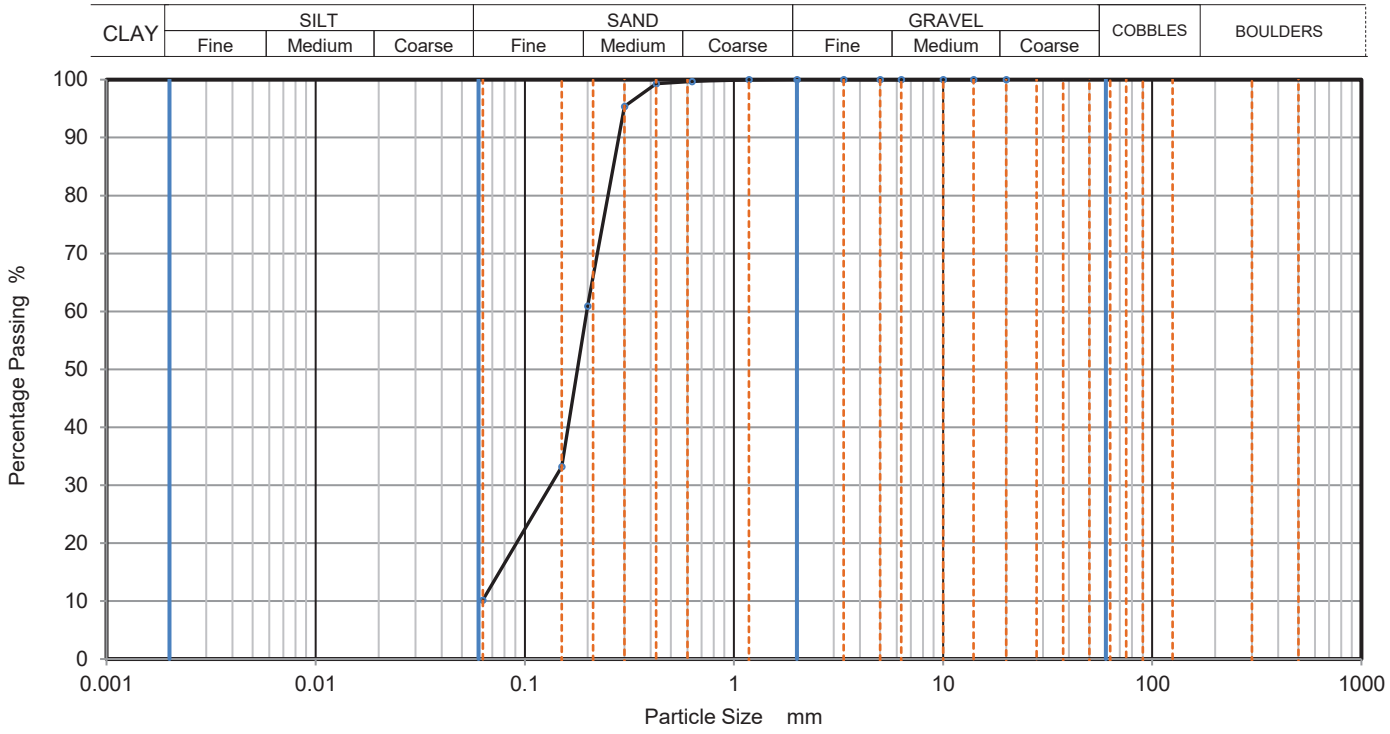
Laboratory Test Report 2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 6

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH07A	18.00	B46	Wet Sieve	Grey silty SAND



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.63	100		
0.425	99		
0.3	95		
0.2	61		
0.15	33		
0.063	10		

Dry Mass of sample, g: 1183

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	90
Fines <0.063mm	10

Grading Analysis		
D100	mm	5
D60	mm	0.198
D30	mm	0.133
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

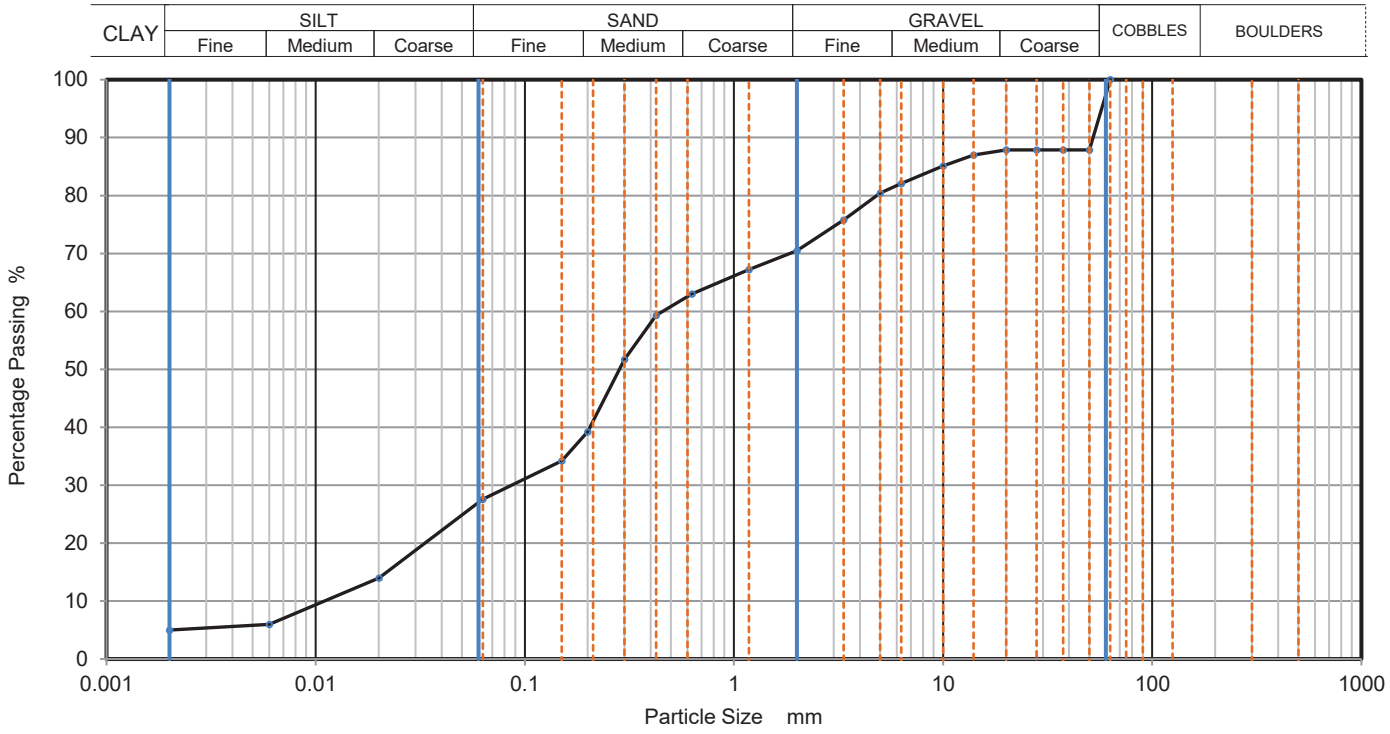
Laboratory Test Report 2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 7

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Testing Type	Description
BH08A	13.50	B36	Wet Sieve + Pipette	Brown silty, gravelly SAND



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0201	14
		0.0060	6
		0.0020	5
63	100		
50	88		
37.5	88		
28	88		
20	88		
14	87		
10	85		
6.3	82		
5	80		
3.35	76		
2	71	Particle density (assumed)	
1.18	67	2.65	Mg/m3
0.63	63		
0.425	59		
0.3	52		
0.2	39		
0.15	34		
0.063	28		

Dry Mass of sample, g: 1311

Sample Proportions	% dry mass
Very coarse	0
Gravel	30
Sand	43
Silt	23
Clay	5

Grading Analysis		
D100	mm	63
D60	mm	0.456
D30	mm	0.0861
D10	mm	0.0113
Uniformity Coefficient		40
Curvature Coefficient		1.4

Remarks

Preparation and testing in accordance with BS17892 unless noted below

Method of Preparation: BS EN 17892:Part4:2016, clause 5.2.2 Preparation of samples for wet sieving test
BS EN 17892:Part4:2016, clause 5.4.2 Preparation of samples for pipette test

Method of Test: BS EN 17892:Part4:2016, clause 5.2.3 Determination of particle size distribution by wet sieving method
BS EN 17892:Part4:2016, clause 5.4.3 Determination of sedimentation by pipette method

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

Client: Conwy Borough Council **Page:** 8

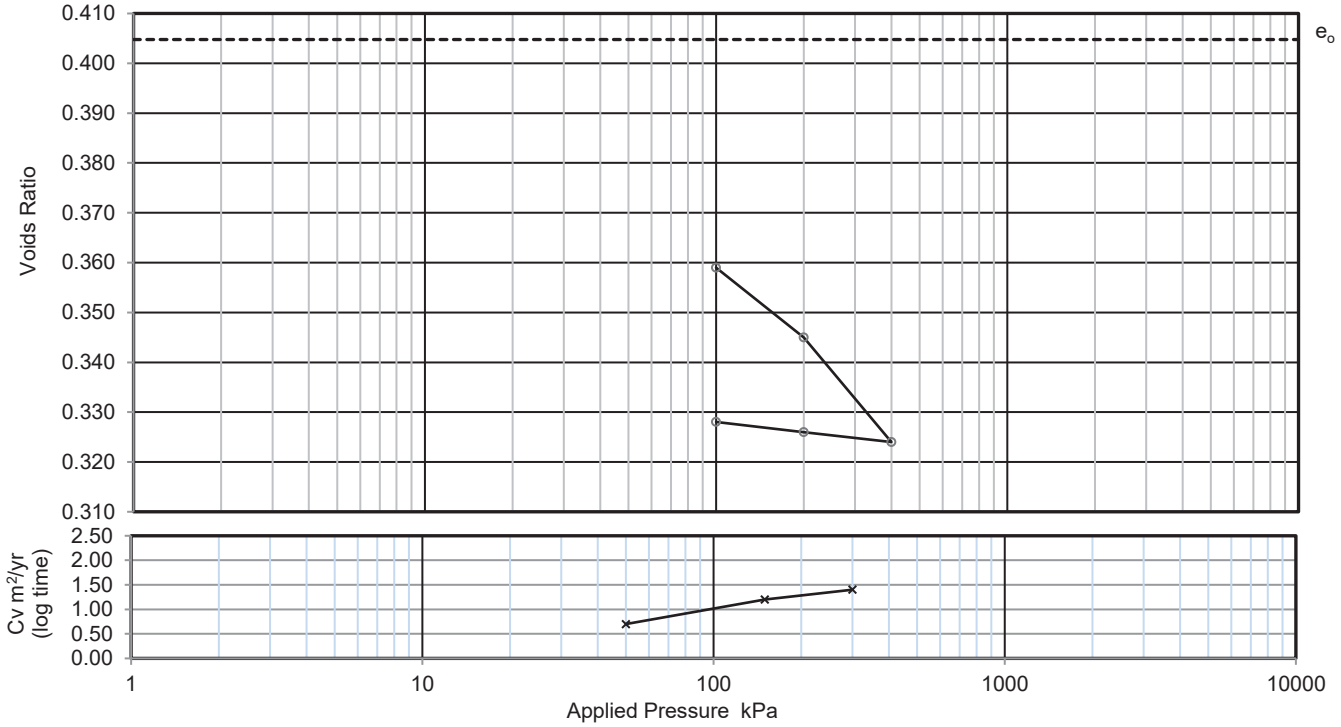
DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

Borehole / Trial Pit	Depth (m)	Sample	Description
BH08A	5.00	UT18	Brown slightly gravelly, slightly sandy, silty CLAY

Initial Specimen

Length of Sample (mm)	350.00
Depth from top of specimen (mm)	50.00
Condition of Sample:	Undisturbed
Orientation:	Vertical

Diameter (mm)	74.98
Particle density (Mg/m³)	2.65 assumed
Swelling Pressure (kPa)	
Lab Temp. (°C)	20



Applied Pressure kPa	Mv m2/MN	Cv (t50, log) m2/yr	Cv (t90, root) m2/yr	Csec	Voids ratio
0.0	-	-	-	-	0.405
100	0.33	0.7	1.7	0.0008	0.359
200	0.11	1.2	1.6	0.0016	0.345
400	0.075	1.4	2.4	0.0014	0.324
200	0.0053				0.326
100	0.019				0.328

	Initial	Final
Height (mm)	19.00	17.97
Moisture Content (%)	16	15
Bulk density (Mg/m³)	2.20	2.29
Dry density (Mg/m³)	1.89	1.99
Voids Ratio	0.405	0.328
Degree of Saturation (%)	108	118

Remarks: GRAVEL REMOVED

Method of Preparation: BS 1377:Part 5:1990, clause 3.3 Preparation of specimen
BS 1377:Part 5:1990, clause 3.4 Preparation and assembly of apparatus

Method of Test: BS 1377:Part 5:1990, clause 3.5 Determination of the one-dimensional consolidation properties

UKAS TESTING 1464

Result reported relates only to the sample tested.

Site: Brickworks Llandudno Junction **Job Number:** 2230642

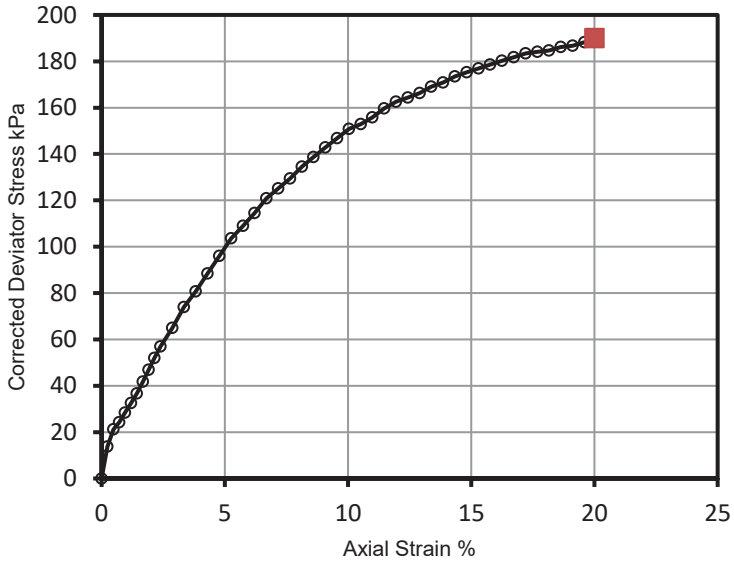
Client: Conwy Borough Council **Page:** 9

Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen (Definitive Method)

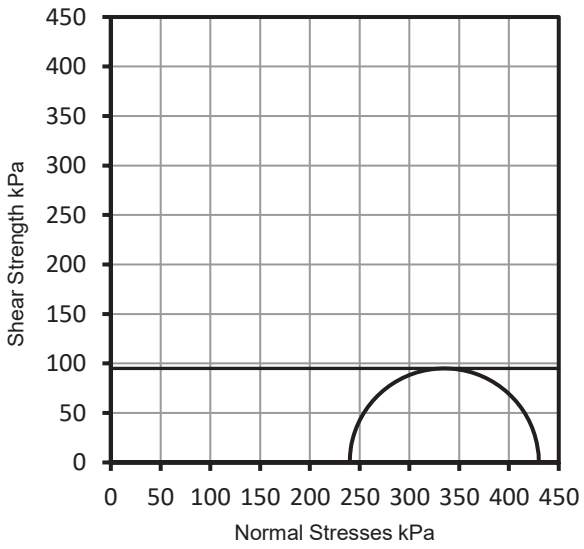
Borehole / Trial Pit	Depth (m)	Sample	Description
BH02A	12.00	UT36	**Brown slightly sandy, silty CLAY**

Initial Sample	Test Number	1
	Original Length (mm)	400.00
	Depth from Top (mm)	50.00
	Condition	Undisturbed
	Orientation	Vertical
Length (mm)		209.24
Diameter (mm)		103.12
Moisture Content (%)		21
Bulk Density (Mg/m3)		2.22
Dry Density (Mg/m3)		1.84
Membrane Thickness (mm)		0.35
Membrane Type		Latex
Rate of Strain (%/min)		1.9
Test Results	Cell Pressure (kPa)	240
	Axial Strain (%)	20
	Membrane Corr. (kPa)	1.31
	Deviator Stress, (σ1 - σ3)f (kPa)	190
	Undrained Shear Strength, cu = ½(σ1 - σ3)f (kPa)	95
	Mode of Failure	Plastic

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Method of Preparation: BS 1377:PT1:1990:8.3 Preparation of undisturbed samples for testing or
BS 1377:PT1:1990:7.7.5.2 Preparation of disturbed samples for testing

Method of Test: BS 1377:PT2:1990:7.2 Determination of density by linear measurement.
BS 1377:PT7:1990:8.4 Determination of undrained shear strength in triaxial compression without measurement of pore pressure (Definitive method)

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

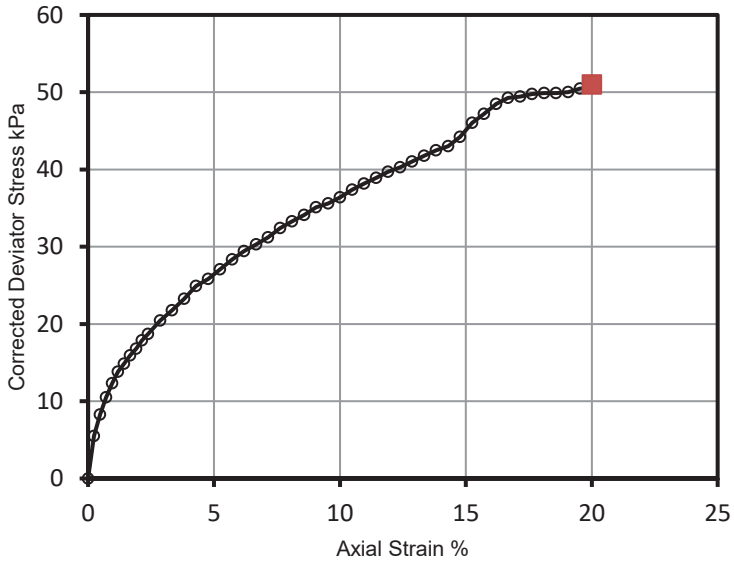
Client: Conwy Borough Council **Page:** 10

Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen (Definitive Method)

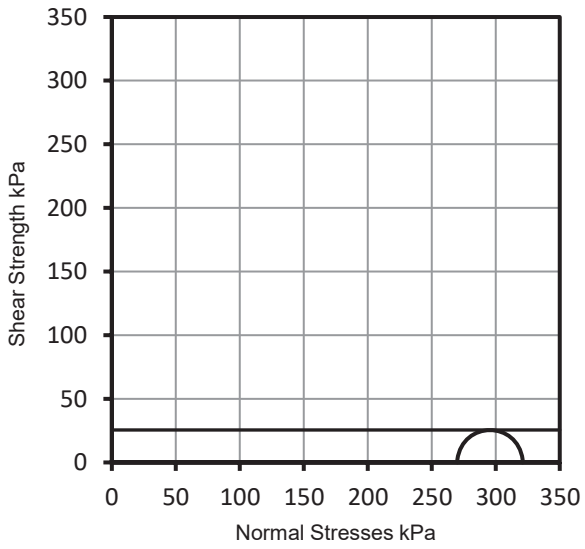
Borehole / Trial Pit	Depth (m)	Sample	Description
BH03A	13.50	UT22	**Brown sandy, clayey SILT**

Initial Sample	Test Number	1
	Original Length (mm)	400.00
	Depth from Top (mm)	50.00
	Condition	Undisturbed
	Orientation	Vertical
Length (mm)		209.86
Diameter (mm)		104.18
Moisture Content (%)		19
Bulk Density (Mg/m3)		2.15
Dry Density (Mg/m3)		1.81
Membrane Thickness (mm)		0.35
Membrane Type		Latex
Rate of Strain (%/min)		1.9
Test Results	Cell Pressure (kPa)	270
	Axial Strain (%)	20
	Membrane Corr. (kPa)	1.29
	Deviator Stress, (σ1 - σ3)f (kPa)	51
	Undrained Shear Strength, cu = ½(σ1 - σ3)f (kPa)	25
	Mode of Failure	Plastic

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Method of Preparation: BS 1377:PT1:1990:8.3 Preparation of undisturbed samples for testing or
BS 1377:PT1:1990:7.7.5.2 Preparation of disturbed samples for testing

Method of Test: BS 1377:PT2:1990:7.2 Determination of density by linear measurement.
BS 1377:PT7:1990:8.4 Determination of undrained shear strength in triaxial compression without measurement of pore pressure (Definitive method)

UKAS TESTING 1464

Result reported relates only to the sample tested.

IAN FARMER ASSOCIATES

Laboratory Test Report	2230642 / 1

Site: Brickworks Llandudno Junction **Job Number:** 2230642

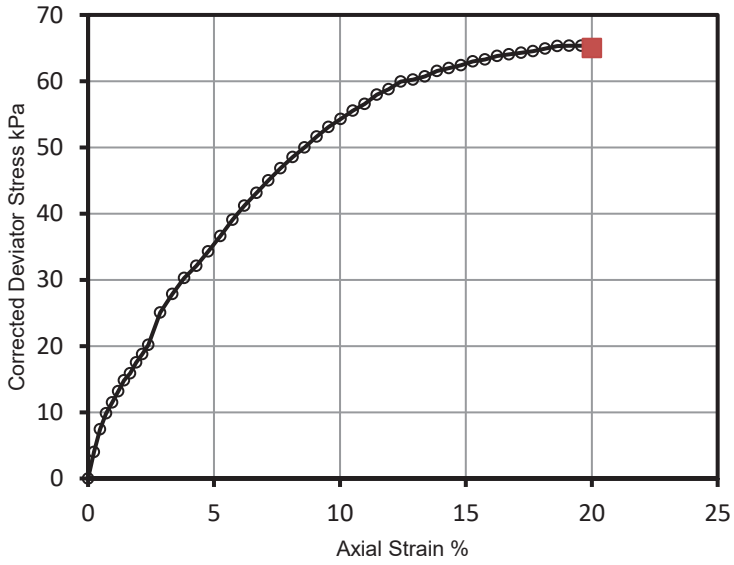
Client: Conwy Borough Council **Page:** 11

Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen (Definitive Method)

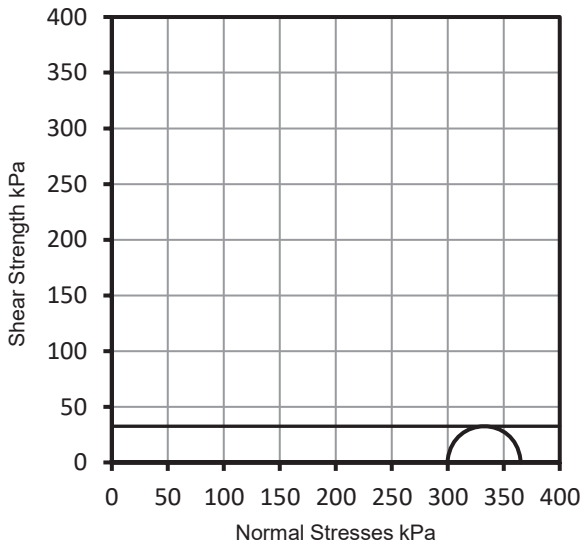
Borehole / Trial Pit	Depth (m)	Sample	Description
BH05A	15.00	UT24	**Brown slightly sandy, clayey SILT**

Initial Sample	Test Number	1
	Original Length (mm)	400.00
	Depth from Top (mm)	50.00
	Condition	Undisturbed
	Orientation	Vertical
Length (mm)		209.37
Diameter (mm)		103.72
Moisture Content (%)		28
Bulk Density (Mg/m3)		2.06
Dry Density (Mg/m3)		1.61
Membrane Thickness (mm)		0.35
Membrane Type		Latex
Rate of Strain (%/min)		1.9
Test Results	Cell Pressure (kPa)	300
	Axial Strain (%)	20
	Membrane Corr. (kPa)	1.3
	Deviator Stress, (σ1 - σ3)f (kPa)	65
	Undrained Shear Strength, cu = ½(σ1 - σ3)f (kPa)	33
	Mode of Failure	Plastic

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Method of Preparation: BS 1377:PT1:1990:8.3 Preparation of undisturbed samples for testing or
BS 1377:PT1:1990:7.7.5.2 Preparation of disturbed samples for testing

Method of Test: BS 1377:PT2:1990:7.2 Determination of density by linear measurement.
BS 1377:PT7:1990:8.4 Determination of undrained shear strength in triaxial compression without measurement of pore pressure (Definitive method)

UKAS TESTING 1464

Result reported relates only to the sample tested.

Site: Brickworks Llandudno Junction **Job Number:** 2230642

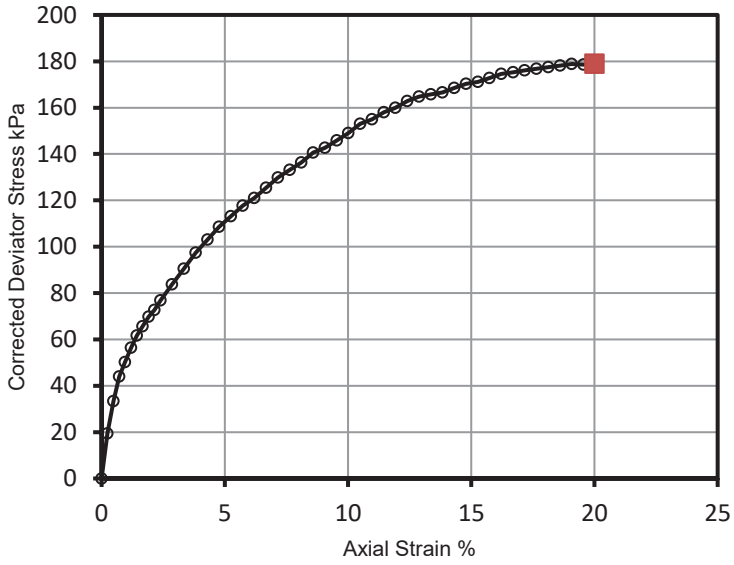
Client: Conwy Borough Council **Page:** 12

Unconsolidated Undrained Triaxial Compression Test without measurement of pore pressure - single specimen (Definitive Method)

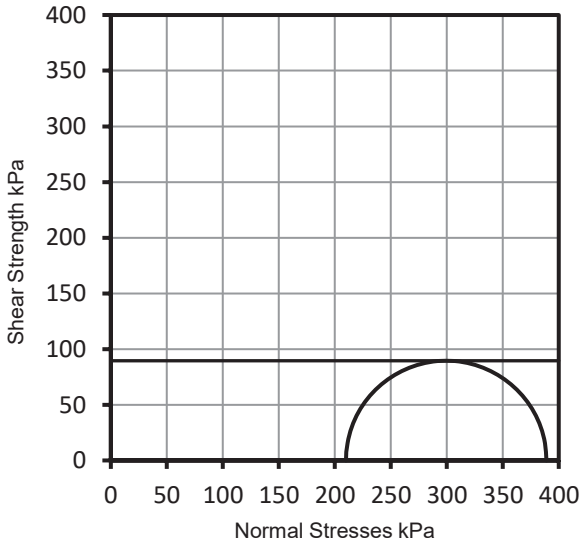
Borehole / Trial Pit	Depth (m)	Sample	Description
BH07A	10.50	UT33	**Brown slightly gravelly, sandy, very silty CLAY**

Initial Sample	Test Number	1
	Original Length (mm)	400.00
	Depth from Top (mm)	50.00
	Condition	Undisturbed
	Orientation	Vertical
Length (mm)		209.61
Diameter (mm)		102.44
Moisture Content (%)		37
Bulk Density (Mg/m3)		2.27
Dry Density (Mg/m3)		1.66
Membrane Thickness (mm)		0.35
Membrane Type		Latex
Rate of Strain (%/min)		1.9
Test Results	Cell Pressure (kPa)	210
	Axial Strain (%)	20
	Membrane Corr. (kPa)	1.32
	Deviator Stress, (σ1 - σ3)f (kPa)	179
	Undrained Shear Strength, cu = ½(σ1 - σ3)f (kPa)	90
	Mode of Failure	Plastic

Deviator Stress v Axial Strain



Mohr Circles



Deviator stress corrected for area change and membrane effects

Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Method of Preparation: BS 1377:PT1:1990:8.3 Preparation of undisturbed samples for testing or
BS 1377:PT1:1990:7.7.5.2 Preparation of disturbed samples for testing

Method of Test: BS 1377:PT2:1990:7.2 Determination of density by linear measurement.
BS 1377:PT7:1990:8.4 Determination of undrained shear strength in triaxial compression without measurement of pore pressure (Definitive method)

UKAS TESTING 1464

Result reported relates only to the sample tested.

Final Test Report - 2230642 / 1

Site:	Brickworks Llandudno Junction
Job Number:	2230642
Originating Client:	Conwy Borough Council

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

Samples will be retained for 28 days from date of issue of the final test report before being disposed of, unless we receive written instruction to the contrary.

Report Issue Date: 29/03/2022

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

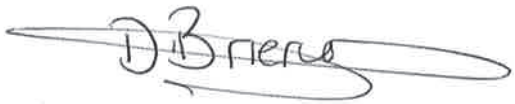
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/01820
Issue Number: 1 **Date:** 08 March, 2022

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7530973
Date Samples Received: 28/02/22
Date Instructions Received: 28/02/22
Date Analysis Completed: 08/03/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 22/01820

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01820/1	22/01820/2	22/01820/3	22/01820/4	22/01820/5	22/01820/6	22/01820/7	Units	Limit of Detection	Method ref
Client Sample No	6	19	9	34	13	25	7			
Client Sample ID	BH01A	BH01A	BH02A	BH02A	BH03A	BH03A	BH04A			
Depth to Top	1.20	5.00	2.50	10.50	7.00	17.00	1.75			
Depth To Bottom										
Date Sampled	01-Feb-22	01-Feb-22	28-Jan-22	31-Jan-22	26-Jan-22	27-Jan-22	02-Feb-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Solid	Soil - D			
Sample Matrix Code	5A	3A	6A	3AE	6A	7	3A			
% Stones >10mm$_A$	22.1	9.0	21.6	<0.1	<0.1	<0.1	12.1	% w/w	0.1	A-T-044
pH BRE$_D$$^{M\#}$	8.85	8.11	8.39	8.34	8.11	8.17	8.46	pH	0.01	A-T-031s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$$^{M\#}$	46	102	236	46	61	<7	32	mg/l	7	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	mg/l	0.4	A-T-026s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	76	340	112	47	29	297	54	mg/l	10	A-T-026s
Sulphate BRE (acid sol)$_D$$^{M\#}$	0.06	0.12	0.09	0.03	0.03	0.10	0.04	% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	0.08	0.28	0.31	0.04	0.05	0.54	0.11	% w/w	0.01	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	2	25	8	6	8	20	4	mg/l	1	A-T-SOLMETS

Envirolab Job Number: 22/01820

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01820/8	22/01820/9	22/01820/10	22/01820/11	22/01820/12	22/01820/13	22/01820/14	Units	Limit of Detection	Method ref
Client Sample No	4	5	20	20	32	6	13			
Client Sample ID	BH04B	BH05A	BH06A	BH07A	BH07A	BH08A	BH08A			
Depth to Top	11.50	2.75	6.75	5.00	9.70	1.20	3.50			
Depth To Bottom										
Date Sampled	03-Feb-22	24-Jan-22	07-Feb-22	02-Feb-22	02-Feb-22	03-Feb-22	04-Feb-22			
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D	Solid			
Sample Matrix Code	5A	3A	6A	6A	3A	6A	7			
% Stones >10mm$_A$	<0.1	8.0	17.0	<0.1	<0.1	27.7	<0.1	% w/w	0.1	A-T-044
pH BRE$_D$$^{M\#}$	8.67	8.30	8.59	7.62	9.02	8.62	9.13	pH	0.01	A-T-031s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$$^{M\#}$	57	21	10	6460	728	25	41	mg/l	7	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	<0.4	<0.4	<0.4	<0.4	<0.4	0.4	<0.4	mg/l	0.4	A-T-026s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	48	43	56	1700	29	40	39	mg/l	10	A-T-026s
Sulphate BRE (acid sol)$_D$$^{M\#}$	0.04	0.04	0.02	0.57	0.03	0.04	0.04	% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	0.06	0.06	0.02	2.86	0.07	0.06	0.18	% w/w	0.01	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	9	3	2	215	6	4	4	mg/l	1	A-T-SOLMETS

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/01820

Date Received: 28/02/2022 (am)

Cool Box Temperatures (°C): 6.0

Lab Sample ID	22/01820/1	22/01820/2	22/01820/3	22/01820/4	22/01820/5	22/01820/6	22/01820/9	22/01820/11
Client Sample No	6	19	9	34	13	25	5	20
Client Sample ID/Depth	BH01A 1.20m	BH01A 5.00m	BH02A 2.50m	BH02A 10.50m	BH03A 7.00m	BH03A 17.00m	BH05A 2.75m	BH07A 5.00m
Date Sampled	01/02/22	01/02/22	28/01/22	31/01/22	26/01/22	27/01/22	24/01/22	02/02/22
Deviation Code								
F	✓	✓	✓	✓	✓	✓	✓	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	22/01820/1	22/01820/2	22/01820/3	22/01820/4	22/01820/5	22/01820/6	22/01820/9	22/01820/11
Client Sample No	6	19	9	34	13	25	5	20
Client Sample ID/Depth	BH01A 1.20m	BH01A 5.00m	BH02A 2.50m	BH02A 10.50m	BH03A 7.00m	BH03A 17.00m	BH05A 2.75m	BH07A 5.00m
Date Sampled	01/02/22	01/02/22	28/01/22	31/01/22	26/01/22	27/01/22	24/01/22	02/02/22
Sulphate BRE (water sol 2:1)	✓	✓	✓	✓	✓	✓	✓	
Sulphate BRE (acid sol)	✓	✓	✓	✓	✓	✓	✓	
Nitrate BRE, SO4 equiv. (water sol 2:1)	✓	✓	✓	✓	✓	✓	✓	
Chloride BRE, SO4 equiv. (water sol 2:1)	✓	✓	✓	✓	✓	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/01820/1	22/01820/2	22/01820/3	22/01820/4	22/01820/5	22/01820/6	22/01820/7	22/01820/8	22/01820/9	22/01820/10	22/01820/11	22/01820/12
Client Sample No	6	19	9	34	13	25	7	4	5	20	20	32
Client Sample ID/Depth	BH01A 1.20m	BH01A 5.00m	BH02A 2.50m	BH02A 10.50m	BH03A 7.00m	BH03A 17.00m	BH04A 1.75m	BH04B 11.50m	BH05A 2.75m	BH06A 6.75m	BH07A 5.00m	BH07A 9.70m
Date Sampled	01/02/22	01/02/22	28/01/22	31/01/22	26/01/22	27/01/22	02/02/22	03/02/22	24/01/22	07/02/22	02/02/22	02/02/22
A-T-024s	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	08/03/2022	07/03/2022
A-T-026s	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	07/03/2022	04/03/2022
A-T-028s	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
A-T-031s	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
A-T-044	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
A-T-SOLMETS	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022

Lab Sample ID	22/01820/13	22/01820/14
Client Sample No	6	13
Client Sample ID/Depth	BH08A 1.20m	BH08A 3.50m
Date Sampled	03/02/22	04/02/22
A-T-024s	07/03/2022	07/03/2022
A-T-026s	04/03/2022	04/03/2022
A-T-028s	07/03/2022	07/03/2022
A-T-031s	04/03/2022	04/03/2022
A-T-044	04/03/2022	04/03/2022
A-T-SOLMETS	04/03/2022	04/03/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX 4

GEOENVIRONMENTAL TESTS

APPENDIX 4

GENERAL NOTES ON GEOENVIRONMENTAL TESTS

A4.1 ACCREDITATION

A4.1.1 Testing has been carried out to either UKAS or MCERTS accreditation, as specified in the results tables.

A4.1.2 The unique reference for each sample is as stated on the relevant engineering log. Each sample is logged on a chain of custody and can be traced from exploratory hole to laboratory. The date of soil samples taken is as per the date shown on the engineering log.

A4.1.3 Subcontracted results are presented directly on headed paper from the subcontracting laboratory.

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/00781
Issue Number: 1 **Date:** 08 February, 2022

Client:
Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7530606
Date Samples Received: 26/01/22
Date Instructions Received: 28/01/22
Date Analysis Completed: 08/02/22

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
% Stones >10mm$_A$	41.2	20.3	<0.1					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.56	7.98	9.76					pH	0.01	A-T-031s
Cyanide (free)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	0.5	0.3	2.5					% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	1	<1	8					mg/kg	1	A-T-024s
Barium$_D$	66	77	84					mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	0.9	0.5					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0					mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.6	1.3	2.2					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	11	24	163					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	15	32	146					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	15	20	35					mg/kg	1	A-T-024s
Manganese$_D$$^{M\#}$	296	623	567					mg/kg	1	A-T-024s
Mercury$_D$	0.92	<0.17	0.91					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	<1	6					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	12	41	51					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	13	24	20					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	38	78	810					mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (2 no)$_A$	-	*	-							A-T-001
pH (leachable)$_A$$^{\#}$	-	7.63	-					pH	0.01	A-T-031w
Cyanide (free) (leachable)$_A$$^{\#}$	-	<0.005	-					mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$$^{\#}$	-	<0.005	-					mg/l	0.005	A-T-042wTCN
Phenols (total by HPLC) (leachable)$_A$	-	<0.01	-					mg/l	0.01	A-T-050w
DOC (leachable)$_A$$^{\#}$	-	20.9	-					mg/l	2	A-T-032w
Arsenic (leachable)$_A$$^{\#}$	-	2	-					µg/l	1	A-T-025w
Boron (leachable)$_A$$^{\#}$	-	29	-					µg/l	10	A-T-025w
Barium (leachable)$_A$$^{\#}$	-	27	-					µg/l	1	A-T-025w
Beryllium (leachable)$_A$$^{\#}$	-	<1	-					µg/l	1	A-T-025w
Cadmium (leachable)$_A$$^{\#}$	-	<1	-					µg/l	1	A-T-025w

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
Copper (leachable)$_{A}^{\#}$	-	5	-					µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	-	<0.05	-					mg/l	0.05	A-T-040w
Lead (leachable)$_{A}^{\#}$	-	3	-					µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	-	152	-					µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	<0.1	-					µg/l	0.1	A-T-025w
Molybdenum (leachable)$_{A}^{\#}$	-	6	-					µg/l	1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	2	-					µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	3	-					µg/l	1	A-T-025w
Calcium (leachable)$_{A}$	-	15	-					mg/l	1	A-T-049w

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	-	-							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	-	-							A-T-045

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	1090					µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	531					µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	7200					µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	529					µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Acenaphthene$_A$	<100	<100	1560					µg/kg	100	A-T-052s
Anthracene$_A$	<100	<100	4390					µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	281	<100	4710					µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	389	<100	3910					µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	<100	<100	1340					µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	293	<100	2960					µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	181	<100	1630					µg/kg	100	A-T-052s

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
Chrysene$_A$	266	<100	3920					µg/kg	100	A-T-052s
Fluoranthene$_A$	582	<100	13000					µg/kg	100	A-T-052s
Fluorene$_A$	<100	<100	2180					µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	198	<100	1980					µg/kg	100	A-T-052s
Phenanthrene$_A$	229	<100	10500					µg/kg	100	A-T-052s
Pyrene$_A$	525	<100	10700					µg/kg	100	A-T-052s
Naphthalene$_A$	<100	<100	641					µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	382					µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500					µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	380					µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Perylene$_A$	<100	<100	851					µg/kg	100	A-T-052s

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10					µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	*<1*	*<1*	*<1*					µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	2	2					µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5					µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5					µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2					µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10					µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3					µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
Chlorobenzene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1					µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	<1	<1	61					µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	<1	3	189					µg/kg	1	A-T-006s
o-Xylene$_A^\#$	<1	<1	14					µg/kg	1	A-T-006s
Styrene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Bromoform$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	<1	<1	8					µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	<1	<1	18					µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	1080					µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	<2	<2	3					µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	206					µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	<1	<1	8					µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	<1	<1	125					µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	<1	<1					µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	<1	<1	<23					µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	<1	<1	1					µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	<2	<2					µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	<3	<3					µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	<3	<3					µg/kg	3	A-T-006s

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
SVOC (leachable)										
2,4,5-Trichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4,6-Trichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4-Dichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4-Dimethylphenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4-Dinitrotoluene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,6-Dinitrotoluene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Chloronaphthalene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Chlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Methylnaphthalene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Methylphenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Nitrophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
4-Bromophenyl phenyl ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
4-Chloro-3-methylphenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
3+4-Methylphenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
4-Nitrophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Acenaphthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Acenaphthylene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Anthracene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(a)anthracene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(a)pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(b)fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(ghi)perylene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(k)fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroethoxy)methane (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroethyl)ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroisopropyl)ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-ethylhexyl)phthalate (leachable)$_A$	-	<4	-					µg/l	4	A-T-052w
Butylbenzyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Carbazole (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Chrysene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dibenzo(ah)anthracene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dibenzofuran (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
Diethyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dimethyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Dibutylphthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Dioctylphthalate (leachable)$_A$	-	<10	-					µg/l	10	A-T-052w
Fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Fluorene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Hexachlorobenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Hexachlorocyclopentadiene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Hexachloroethane (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Indeno(1,2,3-cd)pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Isophorone (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Naphthalene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Nitrobenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Nitroso-n-dipropylamine (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Pentachlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Perylene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Phenanthrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Phenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	<5	-					µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,3,5-Trimethylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	<5	-					µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	<10	-					µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	<1	-					µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	<10	-					µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w

Envirolab Job Number: 22/00781

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
TPH UKCWG (leachable) with Clean Up *C1										
Ali >C5-C6 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	<20	-					µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	<20	-					µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	15	-					µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	<20	-					µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	<20	-					µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	<20	-					µg/l	20	A-T-055w

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11					Units	Limit of Detection	Method ref
Client Sample No	3	17	34							
Client Sample ID	BH05A	BH05A	BH05A							
Depth to Top	0.50	4.00	11.00							
Depth To Bottom										
Date Sampled	24-Jan-22	24-Jan-22	25-Jan-22							
Sample Type	Soil - ES	Soil - ES	Solid							
Sample Matrix Code	4AB	6A	7							
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	0.02					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	45					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	146					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	152					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	304					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	6	<1	1920					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	2	<1	150					mg/kg	1	A-T-055s
Total Aliphatics$_A$	7	<1	2720					mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	216					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	254					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	86					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	1	<1	181					mg/kg	1	A-T-055s
Aro >C21-C35$_A$	5	<1	585					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1	27					mg/kg	1	A-T-055s
Total Aromatics$_A$	6	<1	1350					mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	14	<1	4070					mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	0.02					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	0.07					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	0.02					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
TPH CWG *C1 indicates results with humics mathematically subtracted through instrument calculation
TPH CWG *C2 indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG with Clean Up C1

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/00781

Date Received: 28/01/2022 (am)

Cool Box Temperatures (°C): 6.0 & 6.1

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/00781/2	22/00781/6	22/00781/11
Client Sample No	3	17	34
Client Sample ID/Depth	BH05A 0.50m	BH05A 4.00m	BH05A 11.00m
Date Sampled	24/01/22	24/01/22	25/01/22
A-T-006s	03/02/2022	03/02/2022	03/02/2022
A-T-006w		04/02/2022	
A-T-022s	04/02/2022	04/02/2022	04/02/2022
A-T-022w		04/02/2022	
A-T-024s	04/02/2022	04/02/2022	04/02/2022
A-T-025w		08/02/2022	
A-T-027s	03/02/2022	03/02/2022	03/02/2022
A-T-031s	04/02/2022	04/02/2022	04/02/2022
A-T-031w		07/02/2022	
A-T-032 OM	07/02/2022	07/02/2022	07/02/2022
A-T-032w		03/02/2022	
A-T-040s	03/02/2022	03/02/2022	03/02/2022
A-T-040w		03/02/2022	
A-T-042sFCN	04/02/2022	04/02/2022	04/02/2022
A-T-042sTCN	04/02/2022	04/02/2022	04/02/2022
A-T-042wFCN		04/02/2022	
A-T-042wTCN		04/02/2022	
A-T-044	02/02/2022	02/02/2022	02/02/2022
A-T-045	31/01/2022		
A-T-049w		04/02/2022	
A-T-050s	07/02/2022	07/02/2022	07/02/2022
A-T-050w		07/02/2022	
A-T-052s	04/02/2022	04/02/2022	04/02/2022
A-T-052w		07/02/2022	
A-T-055s	04/02/2022	04/02/2022	04/02/2022
A-T-055w		04/02/2022	

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

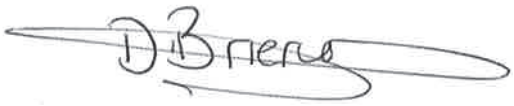
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/00819
Issue Number: 1 **Date:** 08 February, 2022

Client:
Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7530628
Date Samples Received: 31/01/22
Date Instructions Received: 31/01/22
Date Analysis Completed: 08/02/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
% Stones >10mm$_A$	14.6	4.1	2.5					% w/w	0.1	A-T-044
pH$_D$[M#]	8.90	8.46	9.13					pH	0.01	A-T-031s
Cyanide (free)$_A$[M#]	<1	<1	<1					mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$[M#]	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	0.5	<0.2					mg/kg	0.2	A-T-050s
Organic matter$_D$[M#]	0.9	2.5	0.4					% w/w	0.1	A-T-032 OM
Arsenic$_D$[M#]	3	4	2					mg/kg	1	A-T-024s
Barium$_D$	60	111	64					mg/kg	1	A-T-024s
Beryllium$_D$	0.6	0.9	<0.5					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0					mg/kg	1	A-T-027s
Cadmium$_D$[M#]	1.1	1.3	0.6					mg/kg	0.5	A-T-024s
Copper$_D$[M#]	24	38	11					mg/kg	1	A-T-024s
Chromium$_D$[M#]	20	33	20					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Lead$_D$[M#]	23	52	8					mg/kg	1	A-T-024s
Manganese$_D$[M#]	448	638	375					mg/kg	1	A-T-024s
Mercury$_D$	1.01	0.22	<0.17					mg/kg	0.17	A-T-024s
Molybdenum$_D$[M#]	<1	<1	<1					mg/kg	1	A-T-024s
Nickel$_D$[M#]	22	31	20					mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$[M#]	17	32	20					mg/kg	1	A-T-024s
Zinc$_D$[M#]	71	101	34					mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (2 no)$_A$	-	*	-							A-T-001
pH (leachable)$_A$[#]	-	7.77	-					pH	0.01	A-T-031w
Cyanide (free) (leachable)$_A$[#]	-	<0.005	-					mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$[#]	-	0.062	-					mg/l	0.005	A-T-042wTCN
Phenols (total by HPLC) (leachable)$_A$	-	0.19	-					mg/l	0.01	A-T-050w
DOC (leachable)$_A$[#]	-	35.2	-					mg/l	2	A-T-032w
Arsenic (leachable)$_A$[#]	-	4	-					µg/l	1	A-T-025w
Boron (leachable)$_A$[#]	-	72	-					µg/l	10	A-T-025w
Barium (leachable)$_A$[#]	-	43	-					µg/l	1	A-T-025w
Beryllium (leachable)$_A$[#]	-	<1	-					µg/l	1	A-T-025w
Cadmium (leachable)$_A$[#]	-	<1	-					µg/l	1	A-T-025w

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
Copper (leachable)$_{A}^{\#}$	-	3	-					µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	-	<0.05	-					mg/l	0.05	A-T-040w
Lead (leachable)$_{A}^{\#}$	-	2	-					µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	-	80	-					µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	<0.1	-					µg/l	0.1	A-T-025w
Molybdenum (leachable)$_{A}^{\#}$	-	13	-					µg/l	1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	<1	-					µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	-	2	-					µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	3	-					µg/l	1	A-T-025w
Calcium (leachable)$_{A}$	-	22	-					mg/l	1	A-T-049w

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	NAD	-	-							A-T-045
Asbestos Matrix (visual)$_D$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	-	-							A-T-045

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	272	<100					µg/kg	100	A-T-052s
Carbazole$_A$	<100	142	<100					µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500					µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	355	<100					µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	646	<100					µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Acenaphthene$_A$	<100	144	<100					µg/kg	100	A-T-052s
Anthracene$_A$	<100	315	<100					µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	281	700	<100					µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	339	861	<100					µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	<100	263	<100					µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	240	653	<100					µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	118	329	<100					µg/kg	100	A-T-052s

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
Chrysene$_A$	238	634	<100					µg/kg	100	A-T-052s
Fluoranthene$_A$	521	1630	<100					µg/kg	100	A-T-052s
Fluorene$_A$	<100	329	<100					µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	140	393	<100					µg/kg	100	A-T-052s
Phenanthrene$_A$	266	1240	<100					µg/kg	100	A-T-052s
Pyrene$_A$	455	1410	<100					µg/kg	100	A-T-052s
Naphthalene$_A$	<100	4150	<100					µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500					µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Perylene$_A$	<100	168	<100					µg/kg	100	A-T-052s

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10					µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	*<1*	*<1*	*<1*					µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5					µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5					µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2					µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	83	<1					µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10					µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	4	<1					µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3					µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
Chlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	27	<1					µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	82	<1					µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	24	<1					µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	4	<1					µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	2	<1					µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	13	<1					µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2					µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	53	<1					µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	1	<1					µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2					µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3					µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3					µg/kg	3	A-T-006s

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
SVOC (leachable)										
2,4,5-Trichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4,6-Trichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4-Dichlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,4-Dimethylphenol (leachable)$_A$	-	178	-					µg/l	2	A-T-052w
2,4-Dinitrotoluene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2,6-Dinitrotoluene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Chloronaphthalene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Chlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
2-Methylnaphthalene (leachable)$_A$	-	46	-					µg/l	2	A-T-052w
2-Methylphenol (leachable)$_A$	-	14	-					µg/l	2	A-T-052w
2-Nitrophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
4-Bromophenyl phenyl ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
4-Chloro-3-methylphenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
3+4-Methylphenol (leachable)$_A$	-	10	-					µg/l	2	A-T-052w
4-Nitrophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Acenaphthene (leachable)$_A$	-	9	-					µg/l	2	A-T-052w
Acenaphthylene (leachable)$_A$	-	3	-					µg/l	2	A-T-052w
Anthracene (leachable)$_A$	-	3	-					µg/l	2	A-T-052w
Benzo(a)anthracene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(a)pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(b)fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(ghi)perylene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Benzo(k)fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroethoxy)methane (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroethyl)ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-chloroisopropyl)ether (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Bis(2-ethylhexyl)phthalate (leachable)$_A$	-	<4	-					µg/l	4	A-T-052w
Butylbenzyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Carbazole (leachable)$_A$	-	38	-					µg/l	2	A-T-052w
Chrysene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dibenzo(ah)anthracene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dibenzofuran (leachable)$_A$	-	12	-					µg/l	2	A-T-052w

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
Diethyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Dimethyl phthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Dibutylphthalate (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Dioctylphthalate (leachable)$_A$	-	<10	-					µg/l	10	A-T-052w
Fluoranthene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Fluorene (leachable)$_A$	-	12	-					µg/l	2	A-T-052w
Hexachlorobenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Hexachlorocyclopentadiene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Hexachloroethane (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Indeno(1,2,3-cd)pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Isophorone (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Naphthalene (leachable)$_A$	-	280	-					µg/l	2	A-T-052w
Nitrobenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
n-Nitroso-n-dipropylamine (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Pentachlorophenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Perylene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Phenanthrene (leachable)$_A$	-	11	-					µg/l	2	A-T-052w
Phenol (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w
Pyrene (leachable)$_A$	-	<2	-					µg/l	2	A-T-052w

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	<5	-					µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	5	-					µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	13	-					µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	26	-					µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	5	-					µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	<3	-					µg/l	3	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	15	-					µg/l	1	A-T-006w

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	<2	-					µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,3,5-Trimethylbenzene (leachable)$_A$	-	7	-					µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	6	-					µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	<5	-					µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	<10	-					µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	2	-					µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	<10	-					µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	<1	-					µg/l	1	A-T-006w

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
TPH UKCWG (leachable) with Clean Up *C1										
Ali >C5-C6 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	11	-					µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	49	-					µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	12	-					µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	<20	-					µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	72	-					µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	7	-					µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	5	-					µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	727	-					µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	4719	-					µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	1994	-					µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	358	-					µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-					µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	7853	-					µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	7925	-					µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	7	-					µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	5	-					µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	5	-					µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	21	-					µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	20	-					µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-					µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	43	-					µg/l	20	A-T-055w

Envirolab Job Number: 22/00819

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15					Units	Limit of Detection	Method ref
Client Sample No	2	20	44							
Client Sample ID	BH03A	BH03A	BH03A							
Depth to Top	0.20	5.00	13.00							
Depth To Bottom										
Date Sampled	27-Jan-22	27-Jan-22	28-Jan-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	6ABE	6AE	6A							
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	5	<1	<1					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	12	<1	<1					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	83	4	<1					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	23	<1	<1					mg/kg	1	A-T-055s
Total Aliphatics$_A$	124	4	<1					mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	0.07	<0.01					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	2	<1					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	31	<1					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	10	13	<1					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	37	12	<1					mg/kg	1	A-T-055s
Aro >C21-C35$_A$	39	21	<1					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	13	<1	<1					mg/kg	1	A-T-055s
Total Aromatics$_A$	100	79	<1					mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	224	83	<1					mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	0.07	<0.01					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	0.04	<0.01					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	0.09	<0.01					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	0.04	<0.01					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
TPH CWG *C1 indicates results with humics mathematically subtracted through instrument calculation
TPH CWG *C2 indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG with Clean Up C1

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/00819

Date Received: 31/01/2022 (am)

Cool Box Temperatures (°C): 8.5

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/00819/1	22/00819/7	22/00819/15
Client Sample No	2	20	44
Client Sample ID/Depth	BH03A 0.20m	BH03A 5.00m	BH03A 13.00m
Date Sampled	27/01/22	27/01/22	28/01/22
A-T-006s	03/02/2022	03/02/2022	03/02/2022
A-T-006w		04/02/2022	
A-T-022s	07/02/2022	07/02/2022	07/02/2022
A-T-022w		04/02/2022	
A-T-024s	07/02/2022	07/02/2022	07/02/2022
A-T-025w		08/02/2022	
A-T-027s	04/02/2022	04/02/2022	04/02/2022
A-T-031s	07/02/2022	07/02/2022	07/02/2022
A-T-031w		07/02/2022	
A-T-032 OM	07/02/2022	07/02/2022	07/02/2022
A-T-032w		04/02/2022	
A-T-040s	04/02/2022	04/02/2022	04/02/2022
A-T-040w		03/02/2022	
A-T-042sFCN	07/02/2022	07/02/2022	07/02/2022
A-T-042sTCN	07/02/2022	07/02/2022	07/02/2022
A-T-042wFCN		08/02/2022	
A-T-042wTCN		04/02/2022	
A-T-044	07/02/2022	07/02/2022	07/02/2022
A-T-045	01/02/2022		
A-T-049w		08/02/2022	
A-T-050s	07/02/2022	07/02/2022	07/02/2022
A-T-050w		07/02/2022	
A-T-052s	04/02/2022	04/02/2022	04/02/2022
A-T-052w		07/02/2022	
A-T-055s	07/02/2022	07/02/2022	07/02/2022
A-T-055w		04/02/2022	

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT
SUPPLEMENT TO TEST REPORT 22/00970/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 22/00970
Issue Number: 2 **Date:** 21 February, 2022

Client:
Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7530700
Date Samples Received: 02/02/22
Date Instructions Received: 03/02/22
Date Analysis Completed: 21/02/22

Approved by:

Danielle Brierley
Deputy Client Services Supervisor

envirolab

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
% Stones >10mm$_A$	47.7	1.7	<0.1	<0.1	8.5	9.5		% w/w	0.1	A-T-044
pH$_D$[M#]	9.08	7.81	7.95	8.43	7.97	8.42		pH	0.01	A-T-031s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$[M#]	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/kg	0.2	A-T-050s
Organic matter$_D$[M#]	0.7	1.7	0.6	NDP	4.3	0.6		% w/w	0.1	A-T-032 OM
Arsenic$_D$[M#]	2	8	7	3	9	<1		mg/kg	1	A-T-024s
Barium$_D$	55	62	69	62	167	70		mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	1.0	<0.5	<0.5	0.9	<0.5		mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	3.1	<1.0	1.6	4.4	-		mg/kg	1	A-T-027s
Cadmium$_D$[M#]	0.6	1.5	1.7	0.9	1.9	<0.5		mg/kg	0.5	A-T-024s
Copper$_D$[M#]	14	21	27	20	57	19		mg/kg	1	A-T-024s
Chromium$_D$[M#]	17	36	28	20	33	26		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Lead$_D$[M#]	27	29	51	30	96	21		mg/kg	1	A-T-024s
Manganese$_D$[M#]	305	419	279	381	580	689		mg/kg	1	A-T-024s
Mercury$_D$	0.44	<0.17	<0.17	0.37	0.67	<0.17		mg/kg	0.17	A-T-024s
Molybdenum$_D$[M#]	<1	3	<1	<1	3	<1		mg/kg	1	A-T-024s
Nickel$_D$[M#]	15	34	39	21	37	30		mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-024s
Vanadium$_D$[M#]	14	42	15	17	27	24		mg/kg	1	A-T-024s
Zinc$_D$[M#]	48	97	75	61	203	73		mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (2 no)$_A$	-	*	-	-	-	-				A-T-001
pH (leachable)$_A$[#]	-	7.72	-	-	-	-		pH	0.01	A-T-031w
Cyanide (free) (leachable)$_A$[#]	-	<0.005	-	-	-	-		mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$[#]	-	0.007	-	-	-	-		mg/l	0.005	A-T-042wTCN
Phenols (total by HPLC) (leachable)$_A$	-	<0.01	-	-	-	-		mg/l	0.01	A-T-050w
DOC (leachable)$_A$[#]	-	41.7	-	-	-	-		mg/l	2	A-T-032w
Arsenic (leachable)$_A$[#]	-	4	-	-	-	-		µg/l	1	A-T-025w
Boron (leachable)$_A$[#]	-	142	-	-	-	-		µg/l	10	A-T-025w
Barium (leachable)$_A$[#]	-	11	-	-	-	-		µg/l	1	A-T-025w
Beryllium (leachable)$_A$[#]	-	<1	-	-	-	-		µg/l	1	A-T-025w
Cadmium (leachable)$_A$[#]	-	<1	-	-	-	-		µg/l	1	A-T-025w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
Copper (leachable)$_A^{\#}$	-	2	-	-	-	-		µg/l	1	A-T-025w
Chromium (leachable)$_A^{\#}$	-	<1	-	-	-	-		µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-	-	-		mg/l	0.05	A-T-040w
Lead (leachable)$_A^{\#}$	-	2	-	-	-	-		µg/l	1	A-T-025w
Manganese (leachable)$_A^{\#}$	-	52	-	-	-	-		µg/l	1	A-T-025w
Mercury (leachable)$_A^{\#}$	-	<0.1	-	-	-	-		µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A^{\#}$	-	110	-	-	-	-		µg/l	1	A-T-025w
Nickel (leachable)$_A^{\#}$	-	1	-	-	-	-		µg/l	1	A-T-025w
Selenium (leachable)$_A^{\#}$	-	<1	-	-	-	-		µg/l	1	A-T-025w
Vanadium (leachable)$_A^{\#}$	-	4	-	-	-	-		µg/l	1	A-T-025w
Zinc (leachable)$_A^{\#}$	-	2	-	-	-	-		µg/l	1	A-T-025w
Calcium (leachable)$_A$	-	21	-	-	-	-		mg/l	1	A-T-049w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	NAD	-	-	CHRYSOTILE	-	NAD				A-T-045
Asbestos Matrix (visual)$_D$	-	-	-	-	-	-				A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-	Loose Fibres	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	-	-	N/A	-	N/A				A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_D$	-	-	-	<0.001	-	-		% w/w	0.001	A-T-054

Envirolab Job Number: 22/00970

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Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Dibenzofuran$_A$	798	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Carbazole$_A$	111	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	2950	5330	<500		µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	130	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Acenaphthene$_A$	1920	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Anthracene$_A$	2010	<100	<100	<100	201	<100		µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	1170	<100	<100	<100	1170	126		µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	865	<100	<100	132	1320	198		µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	249	<100	<100	<100	413	<100		µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	677	<100	<100	<100	1010	134		µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	354	<100	<100	<100	496	<100		µg/kg	100	A-T-052s

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
Chrysene$_A$	892	<100	<100	<100	911	111		µg/kg	100	A-T-052s
Fluoranthene$_A$	4330	167	<100	162	1840	274		µg/kg	100	A-T-052s
Fluorene$_A$	1680	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	418	<100	<100	<100	596	<100		µg/kg	100	A-T-052s
Phenanthrene$_A$	5540	<100	<100	<100	671	105		µg/kg	100	A-T-052s
Pyrene$_A$	3400	151	<100	157	1580	243		µg/kg	100	A-T-052s
Naphthalene$_A$	128	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	<100	<100	128	<100		µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500	<500	<500	<500		µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	<200	<100		µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<100	<100	<100		µg/kg	100	A-T-052s
Perylene$_A$	184	<100	<100	<100	254	<100		µg/kg	100	A-T-052s

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
VOC										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10	<10	<10	<10	<10		µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Bromomethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Chloroethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Trichlorofluoromethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Carbon Disulphide$_A$#	2	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5		µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1-Dichloroethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
2,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Bromochloromethane$_A$#	<5	<5	<5	<5	<5	<5		µg/kg	5	A-T-006s
Chloroform$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Carbon Tetrachloride$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2-Dichloroethane$_A$#	<2	<2	<2	<2	<2	<2		µg/kg	2	A-T-006s
Benzene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Trichloroethene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Dibromomethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Bromodichloromethane$_A$#	<10	<10	<10	<10	<10	<10		µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Toluene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,3-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Tetrachloroethene$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Dibromochloromethane$_A$#	<3	<3	<3	<3	<3	<3		µg/kg	3	A-T-006s
1,2-Dibromoethane$_A$#	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
o-Xylene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Styrene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Bromoform$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2	<2		µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	<2	<2	<2	<2	<2		µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	<3	<3	<3	<3	<3		µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1	<1		µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	<3	<3	<3	<3	<3		µg/kg	3	A-T-006s

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
SVOC (leachable)										
2,4,5-Trichlorophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2,4,6-Trichlorophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2,4-Dichlorophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2,4-Dimethylphenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2,4-Dinitrotoluene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2,6-Dinitrotoluene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2-Chloronaphthalene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2-Chlorophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2-Methylnaphthalene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2-Methylphenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
2-Nitrophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
4-Bromophenyl phenyl ether (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
4-Chloro-3-methylphenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
3+4-Methylphenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
4-Nitrophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Acenaphthene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Acenaphthylene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Anthracene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Benzo(a)anthracene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Benzo(a)pyrene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Benzo(b)fluoranthene (leachable)$_A$	-	2	-	-	-	-		µg/l	2	A-T-052w
Benzo(ghi)perylene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Benzo(k)fluoranthene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Bis(2-chloroethoxy)methane (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Bis(2-chloroethyl)ether (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Bis(2-chloroisopropyl)ether (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Bis(2-ethylhexyl)phthalate (leachable)$_A$	-	<4	-	-	-	-		µg/l	4	A-T-052w
Butylbenzyl phthalate (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Carbazole (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Chrysene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Dibenzo(ah)anthracene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Dibenzofuran (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
Diethyl phthalate (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Dimethyl phthalate (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
n-Dibutylphthalate (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
n-Dioctylphthalate (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-052w
Fluoranthene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Fluorene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Hexachlorobenzene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Hexachlorocyclopentadiene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Hexachloroethane (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Indeno(1,2,3-cd)pyrene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Isophorone (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Naphthalene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Nitrobenzene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
n-Nitroso-n-dipropylamine (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Pentachlorophenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Perylene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Phenanthrene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Phenol (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w
Pyrene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-052w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	<3	-	-	-	-		µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	<5	-	-	-	-		µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	<3	-	-	-	-		µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	<3	-	-	-	-		µg/l	3	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	<2	-	-	-	-		µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,3,5-Trimethylbenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	<5	-	-	-	-		µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-006w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
TPH UKCWG (leachable) with Clean Up *C1										
Ali >C5-C6 (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	<20	-	-	-	-		µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	<20	-	-	-	-		µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-	-	-	-		µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	<20	-	-	-	-		µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	<20	-	-	-	-		µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-	-	-	-		µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	<20	-	-	-	-		µg/l	20	A-T-055w

Envirolab Job Number: 22/00970

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42		Units	Limit of Detection	Method ref
Client Sample No	3	12	35	2	7	4				
Client Sample ID	BH-01A	BH-01A	BH-01A	BH-02A	BH-02A	TP04				
Depth to Top	0.50	3.00	11.50	0.20	2.00	0.50				
Depth To Bottom										
Date Sampled	28-Jan-22	31-Jan-22	31-Jan-22	28-Jan-22	28-Jan-22	31-Jan-22				
Sample Type	Soil - ES	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	6A	6A	7	6A	6A	3A				
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	1	<1	<1	2	1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	1	<1	<1	1	4	2		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	4	5	<1	11	30	4		mg/kg	1	A-T-055s
Ali >C35-C44$_A$	3	3	<1	1	13	<1		mg/kg	1	A-T-055s
Total Aliphatics$_A$	8	9	<1	13	49	7		mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	2	<1		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	3	3	<1	<1	3	2		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	12	4	3	3	21	3		mg/kg	1	A-T-055s
Aro >C21-C35$_A$	27	7	3	16	42	6		mg/kg	1	A-T-055s
Aro >C35-C44$_A$	1	<1	<1	<1	2	<1		mg/kg	1	A-T-055s
Total Aromatics$_A$	43	13	6	19	71	11		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	51	23	6	33	120	19		mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/00970

Date Received: 03/02/2022 (am)

Cool Box Temperatures (°C): 6.0 - 6.5

Lab Sample ID	22/00970/42
Client Sample No	4
Client Sample ID/Depth	TP04 0.50m
Date Sampled	31/01/22
Deviation Code	
F	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	22/00970/42
Client Sample No	4
Client Sample ID/Depth	TP04 0.50m
Date Sampled	31/01/22
VPHCWG	✓
SVOC	✓
VOC	✓
Cyanide (free)	✓
Cyanide (total)	✓

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/00970/2	22/00970/5	22/00970/13	22/00970/14	22/00970/17	22/00970/42
Client Sample No	3	12	35	2	7	4
Client Sample ID/Depth	BH-01A 0.50m	BH-01A 3.00m	BH-01A 11.50m	BH-02A 0.20m	BH-02A 2.00m	TP04 0.50m
Date Sampled	28/01/22	31/01/22	31/01/22	28/01/22	28/01/22	31/01/22
A-T-006s	10/02/2022	10/02/2022	11/02/2022	10/02/2022	10/02/2022	17/02/2022
A-T-006w		10/02/2022				
A-T-022s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	21/02/2022
A-T-022w		10/02/2022				
A-T-024s	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	21/02/2022
A-T-025w		11/02/2022				
A-T-027s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	
A-T-031s	11/02/2022	11/02/2022	11/02/2022	10/02/2022	11/02/2022	17/02/2022
A-T-031w		11/02/2022				
A-T-032 OM	10/02/2022	10/02/2022	10/02/2022	11/02/2022	10/02/2022	18/02/2022
A-T-032w		09/02/2022				
A-T-040s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	17/02/2022
A-T-040w		09/02/2022				
A-T-042sFCN	09/02/2022	09/02/2022	09/02/2022	09/02/2022	09/02/2022	18/02/2022
A-T-042sTCN	09/02/2022	09/02/2022	09/02/2022	09/02/2022	09/02/2022	18/02/2022
A-T-042wFCN		09/02/2022				
A-T-042wTCN		09/02/2022				
A-T-044	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	18/02/2022
A-T-045	04/02/2022			04/02/2022		16/02/2022
A-T-049w		11/02/2022				
A-T-050s	11/02/2022	11/02/2022	11/02/2022	11/02/2022	11/02/2022	17/02/2022
A-T-050w		11/02/2022				
A-T-052s	10/02/2022	10/02/2022	10/02/2022	14/02/2022	14/02/2022	17/02/2022
A-T-052w		10/02/2022				
A-T-054				09/02/2022		
A-T-055s	10/02/2022	10/02/2022	10/02/2022	10/02/2022	10/02/2022	21/02/2022
A-T-055w		10/02/2022				

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/01285
Issue Number: 1 **Date:** 23 February, 2022

Client:
Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llanudno
Project Ref: 2230642
Order No: P7530805
Date Samples Received: 04/02/22
Date Instructions Received: 14/02/22
Date Analysis Completed: 23/02/22

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
% Stones >10mm$_A$	17.9	<0.1	31.4	<0.1	-	11.8	<0.1	% w/w	0.1	A-T-044
pH$_D$[M#]	8.50	9.27	8.82	8.43	-	8.51	7.89	pH	0.01	A-T-031s
Cyanide (free)$_A$[M#]	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$[M#]	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic matter$_D$[M#]	1.2	0.6	0.4	0.4	-	1.7	7.4	% w/w	0.1	A-T-032 OM
Arsenic$_D$[M#]	4	4	3	4	-	5	5	mg/kg	1	A-T-024s
Barium$_D$	68	73	199	44	-	110	61	mg/kg	1	A-T-024s
Beryllium$_D$	0.6	0.7	<0.5	<0.5	-	0.9	1.2	mg/kg	0.5	A-T-024s
Cadmium$_D$[M#]	1.1	1.1	1.0	0.9	-	1.2	1.2	mg/kg	0.5	A-T-024s
Copper$_D$[M#]	30	20	16	23	-	29	20	mg/kg	1	A-T-024s
Chromium$_D$[M#]	22	31	15	16	-	31	37	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-040s
Lead$_D$[M#]	28	15	32	28	-	28	26	mg/kg	1	A-T-024s
Manganese$_D$[M#]	528	639	294	398	-	678	287	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	1.39	<0.17	-	0.26	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$[M#]	<1	<1	<1	<1	-	<1	2	mg/kg	1	A-T-024s
Nickel$_D$[M#]	27	31	10	21	-	29	32	mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$[M#]	21	29	12	15	-	29	45	mg/kg	1	A-T-024s
Zinc$_D$[M#]	78	60	79	84	-	84	92	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (2 no)$_A$	-	-	-	*	-	-	*			A-T-001
pH (leachable)$_A$[#]	-	-	-	7.71	-	-	7.88	pH	0.01	A-T-031w
Hardness Total (leachable)$_A$	-	-	-	53	-	-	152	mg/l Ca CO3	2	A-T-049w
Cyanide (free) (leachable)$_A$[#]	-	-	-	<0.005	-	-	<0.005	mg/l	0.005	A-T-042wFCN
Cyanide (total) (leachable)$_A$[#]	-	-	-	<0.005	-	-	<0.005	mg/l	0.005	A-T-042wTCN
Phenols (total by HPLC) (leachable)$_A$	-	-	-	<0.01	-	-	<0.01	mg/l	0.01	A-T-050w
DOC (leachable)$_A$[#]	-	-	-	10.7	-	-	42.2	mg/l	2	A-T-032w
Arsenic (leachable)$_A$[#]	-	-	-	2	-	-	5	µg/l	1	A-T-025w
Boron (leachable)$_A$[#]	-	-	-	34	-	-	240	µg/l	10	A-T-025w
Barium (leachable)$_A$[#]	-	-	-	17	-	-	38	µg/l	1	A-T-025w
Beryllium (leachable)$_A$[#]	-	-	-	<1	-	-	<1	µg/l	1	A-T-025w
Cadmium (leachable)$_A$[#]	-	-	-	<1	-	-	<1	µg/l	1	A-T-025w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
Copper (leachable)$_{A}^{\#}$	-	-	-	7	-	-	4	µg/l	1	A-T-025w
Chromium (leachable)$_{A}^{\#}$	-	-	-	<1	-	-	1	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_{A}$	-	-	-	<0.05	-	-	<0.05	mg/l	0.05	A-T-040w
Lead (leachable)$_{A}^{\#}$	-	-	-	1	-	-	2	µg/l	1	A-T-025w
Manganese (leachable)$_{A}^{\#}$	-	-	-	115	-	-	201	µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	-	-	<0.1	-	-	<0.1	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_{A}^{\#}$	-	-	-	5	-	-	55	µg/l	1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	-	-	1	-	-	1	µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	-	-	<1	-	-	<1	µg/l	1	A-T-025w
Vanadium (leachable)$_{A}^{\#}$	-	-	-	3	-	-	3	µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	-	-	4	-	-	6	µg/l	1	A-T-025w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	NAD	-	-	-	NAD	-	-			A-T-045
Asbestos Matrix (visual)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	-	-	-	N/A	-	-			A-T-045

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	<500	-	<500	<500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Acenaphthene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Anthracene$_A$	184	<100	138	<100	-	135	<100	µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	418	<100	604	190	-	464	<100	µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	481	<100	821	257	-	667	<100	µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	114	<100	307	<100	-	170	<100	µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	360	<100	710	164	-	466	<100	µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	203	<100	420	<100	-	254	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
Chrysene$_A$	326	<100	553	162	-	425	<100	µg/kg	100	A-T-052s
Fluoranthene$_A$	866	129	976	356	-	978	165	µg/kg	100	A-T-052s
Fluorene$_A$	109	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	212	<100	426	<100	-	271	<100	µg/kg	100	A-T-052s
Phenanthrene$_A$	611	<100	452	150	-	587	<100	µg/kg	100	A-T-052s
Pyrene$_A$	720	<100	969	301	-	845	<100	µg/kg	100	A-T-052s
Naphthalene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	102	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500	<500	-	<500	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Perylene$_A$	109	<100	211	<100	-	135	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
VOC										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10	<10	<10	-	<10	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromomethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Chloroethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5	<5	<5	-	<5	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
2,2-Dichloropropane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromochloromethane$_A$#	<5	<5	<5	<5	-	<5	<5	µg/kg	5	A-T-006s
Chloroform$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dichloroethane$_A$#	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
Benzene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Trichloroethene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dichloropropane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dibromomethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_A$#	<10	<10	<10	<10	-	<10	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Toluene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dibromochloromethane$_A$#	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_A$#	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
SVOC (leachable)										
2,4,5-Trichlorophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2,4,6-Trichlorophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2,4-Dichlorophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2,4-Dimethylphenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2,4-Dinitrotoluene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2,6-Dinitrotoluene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2-Chloronaphthalene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2-Chlorophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2-Methylnaphthalene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2-Methylphenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
2-Nitrophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
4-Bromophenyl phenyl ether (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
4-Chloro-3-methylphenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
3+4-Methylphenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
4-Nitrophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Acenaphthene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Acenaphthylene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Anthracene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Benzo(a)anthracene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Benzo(a)pyrene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Benzo(b)fluoranthene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Benzo(ghi)perylene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Benzo(k)fluoranthene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Bis(2-chloroethoxy)methane (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Bis(2-chloroethyl)ether (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Bis(2-chloroisopropyl)ether (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Bis(2-ethylhexyl)phthalate (leachable)$_A$	-	-	-	<4	-	-	<4	µg/l	4	A-T-052w
Butylbenzyl phthalate (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Carbazole (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Chrysene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Dibenzo(ah)anthracene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Dibenzofuran (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w

Envirolab Job Number: 22/01285 **Client Project Name: Brickworks, Llanudno**

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
Diethyl phthalate (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Dimethyl phthalate (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
n-Dibutylphthalate (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
n-Dioctylphthalate (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-052w
Fluoranthene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Fluorene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Hexachlorobenzene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Hexachlorocyclopentadiene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Hexachloroethane (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Indeno(1,2,3-cd)pyrene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Isophorone (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Naphthalene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Nitrobenzene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
n-Nitroso-n-dipropylamine (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Pentachlorophenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Perylene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Phenanthrene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Phenol (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w
Pyrene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-052w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	-	-	<3	-	-	<3	µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	-	-	<5	-	-	<5	µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	-	-	<3	-	-	<3	µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	-	-	<3	-	-	<3	µg/l	3	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	-	-	<2	-	-	<2	µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,3,5-Trimethylbenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	-	-	<5	-	-	<5	µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
TPH UKCWG (leachable) with Clean Up *C1										
Ali >C5-C6 (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	-	-	<20	-	-	<20	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	-	-	<20	-	-	<20	µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	-	-	11	-	-	17	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	-	-	<10	-	-	<10	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	-	-	<20	-	-	<20	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	-	-	<20	-	-	<20	µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	-	-	<1	-	-	<1	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	-	-	<20	-	-	<20	µg/l	20	A-T-055w

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	Units	Limit of Detection	Method ref
Client Sample No	3	23	2	18	4	5	11			
Client Sample ID	BH04A	BH04A	BH06A	BH06A	BH07A	BH07A	BH07A			
Depth to Top	0.50	7.00	0.20	6.00	0.50	1.00	3.00			
Depth To Bottom										
Date Sampled	02-Feb-22	02-Feb-22	04-Feb-22	07-Feb-22	01-Feb-22	01-Feb-22	02-Feb-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AB	3A	6A	4A	6AE	6A	6A			
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	2	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	2	<1	4	<1	-	2	1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	7	1	14	2	-	14	10	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	4	1	12	<1	-	8	3	mg/kg	1	A-T-055s
Total Aliphatics$_A$	13	3	32	2	-	23	14	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	4	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	2	<1	12	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	5	<1	36	<1	-	4	3	mg/kg	1	A-T-055s
Aro >C21-C35$_A$	9	<1	87	2	-	17	3	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1	4	<1	-	3	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	17	<1	143	2	-	24	6	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	30	3	175	5	-	48	20	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
% Stones >10mm$_A$	<0.1	<0.1	<0.1					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.59	8.71	8.24					pH	0.01	A-T-031s
Cyanide (free)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	32.7	1.3	0.5					% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	<1	3	3					mg/kg	1	A-T-024s
Barium$_D$	36	70	64					mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	<0.5	0.7					mg/kg	0.5	A-T-024s
Cadmium$_D$$^{M\#}$	<0.5	1.1	1.0					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	5	24	18					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	3	19	33					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	2	59	12					mg/kg	1	A-T-024s
Manganese$_D$$^{M\#}$	15	426	485					mg/kg	1	A-T-024s
Mercury$_D$	<0.17	2.33	<0.17					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	1	<1					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	2	16	35					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	3	14	31					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	<5	139	58					mg/kg	5	A-T-024s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	NAD	-							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	N/A	-							A-T-045

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500					µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Acenaphthene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Anthracene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	<100	225	<100					µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	<100	338	<100					µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	<100	216	<100					µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	<100	140	<100					µg/kg	100	A-T-052s

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
Chrysene$_A$	<100	222	<100					µg/kg	100	A-T-052s
Fluoranthene$_A$	<100	526	<100					µg/kg	100	A-T-052s
Fluorene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	<100	137	<100					µg/kg	100	A-T-052s
Phenanthrene$_A$	<100	292	<100					µg/kg	100	A-T-052s
Pyrene$_A$	<100	434	<100					µg/kg	100	A-T-052s
Naphthalene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100					µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500					µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100					µg/kg	100	A-T-052s
Perylene$_A$	161	<100	<100					µg/kg	100	A-T-052s

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
VOC										
Dichlorodifluoromethane$_A$	<1	<1	<1					µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10	<10					µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Bromomethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Chloroethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	3	<1	<1					µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5	<5					µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	<5	<5	<5					µg/kg	5	A-T-006s
Chloroform$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	<2	<2	<2					µg/kg	2	A-T-006s
Benzene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	<10	<10	<10					µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Toluene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	<3	<3	<3					µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	<1	<1	<1					µg/kg	1	A-T-006s

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
Chlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2					µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1					µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2					µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3					µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1					µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3					µg/kg	3	A-T-006s

Envirolab Job Number: 22/01285

Client Project Name: Brickworks, Llanudno

Client Project Ref: 2230642

Lab Sample ID	22/01285/29	22/01285/30	22/01285/72					Units	Limit of Detection	Method ref
Client Sample No	21	3								
Client Sample ID	BH07A	BH08A	BH08A							
Depth to Top	6.00	0.20	2.20							
Depth To Bottom										
Date Sampled	02-Feb-22	03-Feb-22	04-Feb-22							
Sample Type	Soil - ES	Solid	Soil - ES							
Sample Matrix Code	6A	7	3A							
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	2	<1					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	2	10	2					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	30	49	5					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	8	34	<1					mg/kg	1	A-T-055s
Total Aliphatics$_A$	39	95	7					mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	3	<1					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	3	12	<1					mg/kg	1	A-T-055s
Aro >C21-C35$_A$	91	12	<1					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	3	7	<1					mg/kg	1	A-T-055s
Total Aromatics$_A$	97	34	<1					mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	136	129	7					mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llanudno

Clients Project No: 2230642

Project No: 22/01285

Date Received: 14/02/2022 (am)

Cool Box Temperatures (°C):

Lab Sample ID	22/01285/2	22/01285/7	22/01285/24	22/01285/26	22/01285/29
Client Sample No	3	23	5	11	21
Client Sample ID/Depth	BH04A 0.50m	BH04A 7.00m	BH07A 1.00m	BH07A 3.00m	BH07A 6.00m
Date Sampled	02/02/22	02/02/22	01/02/22	02/02/22	02/02/22
Deviation Code					
F	✓	✓	✓	✓	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	22/01285/2	22/01285/7	22/01285/24	22/01285/26	22/01285/29
Client Sample No	3	23	5	11	21
Client Sample ID/Depth	BH04A 0.50m	BH04A 7.00m	BH07A 1.00m	BH07A 3.00m	BH07A 6.00m
Date Sampled	02/02/22	02/02/22	01/02/22	02/02/22	02/02/22
Cyanide (free)	✓	✓	✓	✓	✓
VPHCWG			✓		
SVOC			✓		
VOC			✓		
Cyanide (total)			✓		

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/01285/2	22/01285/7	22/01285/8	22/01285/15	22/01285/23	22/01285/24	22/01285/26	22/01285/29	22/01285/30	22/01285/72
Client Sample No	3	23	2	18	4	5	11	21	3	
Client Sample ID/Depth	BH04A 0.50m	BH04A 7.00m	BH06A 0.20m	BH06A 6.00m	BH07A 0.50m	BH07A 1.00m	BH07A 3.00m	BH07A 6.00m	BH08A 0.20m	BH08A 2.20m
Date Sampled	02/02/22	02/02/22	04/02/22	07/02/22	01/02/22	01/02/22	02/02/22	02/02/22	03/02/22	04/02/22
A-T-006s	17/02/2022	17/02/2022	17/02/2022	17/02/2022		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
A-T-006w				18/02/2022			18/02/2022			
A-T-022s	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
A-T-022w				18/02/2022			18/02/2022			
A-T-024s	22/02/2022	22/02/2022	22/02/2022	22/02/2022		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
A-T-025w				23/02/2022			23/02/2022			
A-T-031s	18/02/2022	18/02/2022	18/02/2022	18/02/2022		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
A-T-031w				18/02/2022			18/02/2022			
A-T-032 OM	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	22/02/2022	21/02/2022	21/02/2022
A-T-032w				18/02/2022			18/02/2022			
A-T-040s	18/02/2022	18/02/2022	18/02/2022	18/02/2022		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
A-T-040w				18/02/2022			18/02/2022			
A-T-042sFCN	18/02/2022	18/02/2022	18/02/2022	18/02/2022		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
A-T-042sTCN	18/02/2022	18/02/2022	18/02/2022	18/02/2022		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
A-T-042wFCN				21/02/2022			21/02/2022			
A-T-042wTCN				21/02/2022			21/02/2022			
A-T-044	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
A-T-045	15/02/2022				15/02/2022				15/02/2022	
A-T-049w				22/02/2022			22/02/2022			
A-T-050s	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
A-T-050w				21/02/2022			21/02/2022			
A-T-052s	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
A-T-052w				21/02/2022			21/02/2022			
A-T-055s	21/02/2022	21/02/2022	21/02/2022	21/02/2022		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
A-T-055w				21/02/2022			21/02/2022			

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

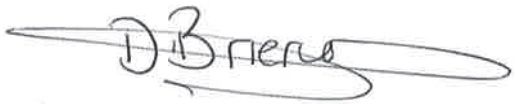
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/01332
Issue Number: 1 **Date:** 21 February, 2022

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7530805
Date Samples Received: 11/02/22
Date Instructions Received: 14/02/22
Date Analysis Completed: 21/02/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 22/01332

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
% Stones >10mm$_A$	<0.1	<0.1						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.58	8.64						pH	0.01	A-T-031s
Cyanide (free)$_A$$^{M\#}$	<1	<1						mg/kg	1	A-T-042sFCN
Cyanide (total)$_A$$^{M\#}$	<1	<1						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2						mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	0.8	0.8						% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Barium$_D$	165	86						mg/kg	1	A-T-024s
Beryllium$_D$	0.9	0.5						mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.0	0.6						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	22	15						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	43	31						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	15	10						mg/kg	1	A-T-024s
Manganese$_D$$^{M\#}$	760	625						mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.19						mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	44	31						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	42	31						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	82	59						mg/kg	5	A-T-024s

Envirolab Job Number: 22/01332

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100						µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100						µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500						µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100						µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100						µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100						µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100						µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100						µg/kg	100	A-T-052s
Acenaphthylene$_A$	<100	<100						µg/kg	100	A-T-052s
Acenaphthene$_A$	<100	<100						µg/kg	100	A-T-052s
Anthracene$_A$	<100	<100						µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	<100	<100						µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	<100	<100						µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	<100	<100						µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	<100	<100						µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	<100	<100						µg/kg	100	A-T-052s

Envirolab Job Number: 22/01332

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
Chrysene$_A$	<100	<100						µg/kg	100	A-T-052s
Fluoranthene$_A$	<100	<100						µg/kg	100	A-T-052s
Fluorene$_A$	<100	<100						µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	<100	<100						µg/kg	100	A-T-052s
Phenanthrene$_A$	<100	<100						µg/kg	100	A-T-052s
Pyrene$_A$	<100	<100						µg/kg	100	A-T-052s
Naphthalene$_A$	<100	<100						µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	<100	<100						µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100						µg/kg	100	A-T-052s
Phenol$_A$	<100	<100						µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100						µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100						µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500						µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100						µg/kg	100	A-T-052s
Perylene$_A$	<100	<100						µg/kg	100	A-T-052s

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
VOC										
Dichlorodifluoromethane$_A$	<1	<1						µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10						µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Bromomethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Chloroethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5						µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	<5	<5						µg/kg	5	A-T-006s
Chloroform$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	<2	<2						µg/kg	2	A-T-006s
Benzene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	<10	<10						µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Toluene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	<1	<1						µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	<3	<3						µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	<1	<1						µg/kg	1	A-T-006s

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
Chlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1						µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1						µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2						µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1						µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2						µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3						µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3						µg/kg	3	A-T-006s

Envirolab Job Number: 22/01332

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/01332/1	22/01332/2						Units	Limit of Detection	Method ref
Client Sample No	10	39								
Client Sample ID	BH04B	BH06A								
Depth to Top	15.00	16.50								
Depth To Bottom										
Date Sampled	03-Feb-22	07-Feb-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	3A	3A								
TPH UKCWG with Clean Up *C1										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C35-C44$_A$	<1	<1						mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Aro >C21-C35$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1						mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	<1						mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	<1	<1						mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/01332

Date Received: 14/02/2022 (am)

Cool Box Temperatures (°C): 6.7

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/01332/1	22/01332/2
Client Sample No	10	39
Client Sample ID/Depth	BH04B 15.00m	BH06A 16.50m
Date Sampled	03/02/22	07/02/22
A-T-006s	17/02/2022	17/02/2022
A-T-022s	21/02/2022	21/02/2022
A-T-024s	18/02/2022	18/02/2022
A-T-027s	21/02/2022	21/02/2022
A-T-031s	18/02/2022	18/02/2022
A-T-032 OM	18/02/2022	18/02/2022
A-T-040s	18/02/2022	18/02/2022
A-T-042sFCN	18/02/2022	18/02/2022
A-T-042sTCN	18/02/2022	18/02/2022
A-T-044	21/02/2022	21/02/2022
A-T-050s	21/02/2022	21/02/2022
A-T-052s	21/02/2022	21/02/2022
A-T-055s	21/02/2022	21/02/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/03543
Issue Number: 1 **Date:** 26 April, 2022

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7531606
Date Samples Received: 08/04/22
Date Instructions Received: 12/04/22
Date Analysis Completed: 26/04/22

Approved by:

Danielle Brierley
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
pH (w)$_A^\#$	7.26	7.32	7.10	6.43	7.21	6.79	7.24	pH	0.01	A-T-031w
Cyanide (free) (w)$_A^\#$	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	mg/l	0.005	A-T-042wFCN
Cyanide (total) (w)$_A^\#$	<0.005	0.012	<0.005	<0.005	<0.005	0.022	<0.005	mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
DOC (w)$_A^\#$	3.2	87.6	31.6	50.2	92.2	88.5	2.9	mg/l	2	A-T-032w
Arsenic (dissolved)$_A^\#$	3	15	6	6	<5	2	3	µg/l	1	A-T-025w
Boron (dissolved)$_A^\#$	128	204	253	210	2070	905	185	µg/l	10	A-T-025w
Barium (dissolved)$_A^\#$	126	277	165	497	664	270	136	µg/l	1	A-T-025w
Beryllium (dissolved)$_A^\#$	<1	<1	<1	<1	<5	<1	<1	µg/l	1	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	<0.2	µg/l	0.2	A-T-025w
Calcium (dissolved)$_A^\#$	80	177	290	191	55	235	75	mg/l	1	A-T-049w
Copper (dissolved)$_A^\#$	<1	3	<1	4	<5	4	<1	µg/l	1	A-T-025w
Chromium (dissolved)$_A^\#$	<1	<1	<1	<1	<5	3	<1	µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-040w
Lead (dissolved)$_A^\#$	<1	<1	<1	<1	<5	<1	<1	µg/l	1	A-T-025w
Manganese (dissolved)$_A^\#$	625	2760	8560	2960	545	4680	750	µg/l	1	A-T-025w
Mercury (dissolved)$_A^\#$	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	µg/l	0.1	A-T-025w
Molybdenum (dissolved)$_A^\#$	2.2	9.6	11.0	0.8	68.5	14.3	3.5	µg/l	0.5	A-T-025w
Nickel (dissolved)$_A^\#$	<1	7	8	36	24	62	2	µg/l	1	A-T-025w
Selenium (dissolved)$_A^\#$	<1	<1	<1	<1	<5	<1	<1	µg/l	1	A-T-025w
Vanadium (dissolved)$_A^\#$	<1	3	<1	<1	<5	<1	<1	µg/l	1	A-T-025w
Zinc (dissolved)$_A^\#$	8	4	9	3	<5	8	2	µg/l	1	A-T-025w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	0.69	0.14	0.62	0.52	2.04	<0.01	µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	0.05	<0.01	0.01	0.03	0.06	<0.01	µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	0.33	0.02	0.13	0.07	0.23	<0.01	µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	0.12	0.02	0.03	<0.01	0.06	<0.01	µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	0.09	0.02	0.02	<0.01	0.02	<0.01	µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	0.09	0.02	0.02	<0.01	0.03	<0.01	µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	*0.01*	*0.06*	*0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	0.04	0.01	<0.01	<0.01	0.01	<0.01	µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	0.14	0.02	0.03	<0.01	0.07	<0.01	µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	0.73	0.09	0.21	0.08	0.40	<0.01	µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	0.69	0.05	0.38	0.41	0.89	<0.01	µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	0.06	0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	1.99	0.07	6.37	37.14	1.95	0.05	µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	1.12	0.02	0.72	0.50	1.16	<0.01	µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	0.03	0.55	0.09	0.17	0.06	0.32	<0.01	µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	0.03	6.70	0.58	8.71	38.8	7.24	0.05	µg/l	0.01	A-T-019w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
SVOC (excluding PAH-16) (w)										
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4,6-Trichlorophenol (w)$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1	5	<1	<1	µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1	4	3	<1	µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10	<10	<12	<10	µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Pentachlorophenol (SVOC)$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1	<1	1	<1	<1	µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Isophorone$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Vinyl Chloride$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromomethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloroethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Trichlorofluoromethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Carbon Disulphide$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromochloromethane$_A^\#$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Chloroform$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
2,2-Dichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloroethane$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloropropene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Benzene$_A^\#$	<1	<1	<1	<1	7	<1	<1	µg/l	1	A-T-006w
Carbon Tetrachloride$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dibromomethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromodichloromethane$_A^\#$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Trichloroethene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Toluene$_A^\#$	<1	<1	<1	<1	5	3	<1	µg/l	1	A-T-006w
1,3-Dichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dibromochloromethane$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2-Dibromoethane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	82	<1	<1	µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	362	4	<1	µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	22	<1	<1	µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	17	<1	<1	µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	26	<1	<1	µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	166	6	<1	µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	2	<1	<1	µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	16	2	<1	µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<5	<1	<1	µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH03A	BH03B	BH06A	BH06B	BH05A	BH05B	BH02A			
Depth to Top	9.00	4.50	8.00	3.00	4.50	4.50	9.50			
Depth To Bottom										
Date Sampled	08-Apr-22	08-Apr-22	08-Apr-22	08-Apr-22	07-Apr-22	07-Apr-22	07-Apr-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
TPH UKCWG (w) with Clean Up *C1										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1	<1	8	<1	<1	µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1	<1	4	<1	<1	µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	25	<5	<5	<5	77	58	<5	µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	17	5	<5	<5	333	465	<5	µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5	<5	35	486	<5	µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5	<5	<5	629	<5	µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5	<5	22	7991	<5	µg/l	5	A-T-055w
Ali >C35-C44 $(w)_A$	<5	<5	<5	<5	<5	1285	<5	µg/l	5	A-T-055w
Total Aliphatics $(w)_A$	42	5	<5	<5	479	10900	<5	µg/l	5	A-T-055w
Aro >C5-C7 $(w)_A^{\#}$	<1	<1	<1	<1	7	<1	<1	µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	<1	<1	4	1	<1	µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	10	7	<5	<5	3237	90	13	µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	26	7	33	2428	324	8	µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	34	6	29	219	314	<5	µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	21	<5	9	75	447	<5	µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10	<10	<10	17	317	<10	µg/l	10	A-T-055w
Aro >C35-C44 $(w)_A$	<5	<5	<5	<5	<5	166	<5	µg/l	5	A-T-055w
Total Aromatics $(w)_A$	10	88	13	71	5990	1660	21	µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C44) $(w)_A$	52	93	13	71	6470	12600	21	µg/l	10	A-T-055w
BTEX - Benzene $(w)_A^{\#}$	<1	<1	<1	<1	7	<1	<1	µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	<1	<1	4	1	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1	<1	75	<1	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1	<1	295	3	<1	µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1	<1	26	<1	<1	µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
pH (w)$_A^{\#}$	6.95	7.23	7.13					pH	0.01	A-T-031w
Cyanide (free) (w)$_A^{\#}$	<0.005	<0.005	<0.005					mg/l	0.005	A-T-042wFCN
Cyanide (total) (w)$_A^{\#}$	0.011	<0.005	<0.005					mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w
DOC (w)$_A^{\#}$	39.4	4.8	2.1					mg/l	2	A-T-032w
Arsenic (dissolved)$_A^{\#}$	52	<1	1					µg/l	1	A-T-025w
Boron (dissolved)$_A^{\#}$	503	207	108					µg/l	10	A-T-025w
Barium (dissolved)$_A^{\#}$	262	150	142					µg/l	1	A-T-025w
Beryllium (dissolved)$_A^{\#}$	<2	<1	<1					µg/l	1	A-T-025w
Cadmium (dissolved)$_A^{\#}$	<0.4	<0.2	<0.2					µg/l	0.2	A-T-025w
Calcium (dissolved)$_A^{\#}$	329	76	79					mg/l	1	A-T-049w
Copper (dissolved)$_A^{\#}$	<2	<1	4					µg/l	1	A-T-025w
Chromium (dissolved)$_A^{\#}$	<2	<1	<1					µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^{\#}$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-040w
Lead (dissolved)$_A^{\#}$	<2	<1	<1					µg/l	1	A-T-025w
Manganese (dissolved)$_A^{\#}$	5670	875	445					µg/l	1	A-T-025w
Mercury (dissolved)$_A^{\#}$	<0.2	<0.1	<0.1					µg/l	0.1	A-T-025w
Molybdenum (dissolved)$_A^{\#}$	15.6	4.7	1.7					µg/l	0.5	A-T-025w
Nickel (dissolved)$_A^{\#}$	5	4	3					µg/l	1	A-T-025w
Selenium (dissolved)$_A^{\#}$	<2	<1	2					µg/l	1	A-T-025w
Vanadium (dissolved)$_A^{\#}$	5	<1	<1					µg/l	1	A-T-025w
Zinc (dissolved)$_A^{\#}$	3	3	9					µg/l	1	A-T-025w

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	0.39	<0.01	0.26					µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	0.02	<0.01	<0.01					µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	0.16	<0.01	0.03					µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	0.21	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	0.19	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	0.20	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	*0.14*	*<0.01*	*<0.01*					µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	0.08	<0.01	<0.01					µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	0.24	<0.01	<0.01					µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	0.02	<0.01	<0.01					µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	0.65	<0.01	0.04					µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	0.23	<0.01	0.10					µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	0.14	<0.01	<0.01					µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	0.74	0.05	1.38					µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	0.76	<0.01	0.14					µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	0.58	<0.01	0.03					µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	4.61	0.05	1.98					µg/l	0.01	A-T-019w

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
SVOC (excluding PAH-16) (w)										
2,4,5-Trichlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4,6-Trichlorophenol (w)$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
3+4-Methylphenol$_A$	37	<1	<1					µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10					µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1					µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1					µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10					µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1					µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Hexachlorobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
Pentachlorophenol (SVOC)$_A$	<1	<1	<1					µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
Isophorone$_A$	<1	<1	<1					µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1	<1					µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1					µg/l	1	A-T-052w

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10					µg/l	10	A-T-006w
Vinyl Chloride$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromomethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Chloroethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Trichlorofluoromethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5					µg/l	5	A-T-006w
Carbon Disulphide$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloroethene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloroethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromochloromethane$_A^\#$	<5	<5	<5					µg/l	5	A-T-006w
Chloroform$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
2,2-Dichloropropane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichloroethane$_A^\#$	<2	<2	<2					µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloropropene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Benzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Carbon Tetrachloride$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Dibromomethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichloropropane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromodichloromethane$_A^\#$	<10	<10	<10					µg/l	10	A-T-006w
Trichloroethene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Toluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,3-Dichloropropane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Dibromochloromethane$_A^\#$	<3	<3	<3					µg/l	3	A-T-006w
1,2-Dibromoethane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1					µg/l	1	A-T-006w

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	1	<1	<1					µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2					µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2					µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3					µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3					µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w

Envirolab Job Number: 22/03543

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03543/8	22/03543/9	22/03543/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH01B	BH08A	BH01A							
Depth to Top	4.00	9.50	9.50							
Depth To Bottom										
Date Sampled	07-Apr-22	07-Apr-22	07-Apr-22							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
TPH UKCWG (w) with Clean Up *C1										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C35-C44 $(w)_A$	<5	<5	<5					µg/l	5	A-T-055w
Total Aliphatics $(w)_A$	<5	<5	<5					µg/l	5	A-T-055w
Aro >C5-C7 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	12	<5	7					µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	30	<5	<5					µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	30	<5	<5					µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	19	<5	<5					µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	17	<10	<10					µg/l	10	A-T-055w
Aro >C35-C44 $(w)_A$	<5	<5	<5					µg/l	5	A-T-055w
Total Aromatics $(w)_A$	108	<10	<10					µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C44) $(w)_A$	108	<10	<10					µg/l	10	A-T-055w
BTEX - Benzene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/03543

Date Received: 12/04/2022 (am)

Cool Box Temperatures (°C): 9.6 - 10.3

Lab Sample ID	22/03543/10
Client Sample No	
Client Sample ID/Depth	BH01A 9.50m
Date Sampled	07/04/22
Deviation Code	
F	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	22/03543/10
Client Sample No	
Client Sample ID/Depth	BH01A 9.50m
Date Sampled	07/04/22
VPHCWG (w)	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/03543/1	22/03543/2	22/03543/3	22/03543/4	22/03543/5	22/03543/6	22/03543/7	22/03543/8	22/03543/9	22/03543/10
Client Sample No										
Client Sample ID/Depth	BH03A 9.00m	BH03B 4.50m	BH06A 8.00m	BH06B 3.00m	BH05A 4.50m	BH05B 4.50m	BH02A 9.50m	BH01B 4.00m	BH08A 9.50m	BH01A 9.50m
Date Sampled	08/04/22	08/04/22	08/04/22	08/04/22	07/04/22	07/04/22	07/04/22	07/04/22	07/04/22	07/04/22
A-T-006w	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022
A-T-019w	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022
A-T-022w	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	26/04/2022
A-T-025w	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022	25/04/2022
A-T-031w	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022	13/04/2022
A-T-032w	19/04/2022	19/04/2022	19/04/2022	19/04/2022	20/04/2022	19/04/2022	19/04/2022	20/04/2022	19/04/2022	19/04/2022
A-T-040w	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022
A-T-042wFCN	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022
A-T-042wTCN	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	21/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022
A-T-049w	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022
A-T-050w	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022	19/04/2022
A-T-052w	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022	21/04/2022
A-T-055w	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	20/04/2022	26/04/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

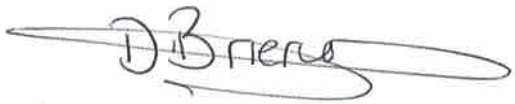
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/03695
Issue Number: 1 **Date:** 28 April, 2022

Client: Ian Farmer Associates (Warrington)
14/15 Rufford Court
Hardwick Grange
Warrington
WA1 4RF

Project Manager: Joe Tant
Project Name: Brickworks, Llandudno
Project Ref: 2230642
Order No: P7531606
Date Samples Received: 12/04/22
Date Instructions Received: 19/04/22
Date Analysis Completed: 28/04/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 22/03695

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
pH (w)$_A^\#$	7.24							pH	0.01	A-T-031w
Hardness Total$_A^\#$	489							mg/l Ca CO3	2	A-T-049w
Cyanide (free) (w)$_A^\#$	<0.005							mg/l	0.005	A-T-042wFCN
Cyanide (total) (w)$_A^\#$	0.022							mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	<0.01							mg/l	0.01	A-T-050w
DOC (w)$_A^\#$	28.4							mg/l	2	A-T-032w
Arsenic (dissolved)$_A^\#$	12							µg/l	1	A-T-025w
Boron (dissolved)$_A^\#$	175							µg/l	10	A-T-025w
Barium (dissolved)$_A^\#$	241							µg/l	1	A-T-025w
Beryllium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2							µg/l	0.2	A-T-025w
Calcium (dissolved)$_A^\#$	124							mg/l	1	A-T-049w
Copper (dissolved)$_A^\#$	1							µg/l	1	A-T-025w
Chromium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^\#$	<0.01							mg/l	0.01	A-T-040w
Lead (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Manganese (dissolved)$_A^\#$	2040							µg/l	1	A-T-025w
Mercury (dissolved)$_A^\#$	<0.1							µg/l	0.1	A-T-025w
Molybdenum (dissolved)$_A^\#$	2.9							µg/l	0.5	A-T-025w
Nickel (dissolved)$_A^\#$	5							µg/l	1	A-T-025w
Selenium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Vanadium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Zinc (dissolved)$_A^\#$	3							µg/l	1	A-T-025w

Envirolab Job Number: 22/03695

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
PAH 16MS (w)										
Acenaphthene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^\#$	0.01							µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^\#$	0.01							µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^\#$	0.02							µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Chrysene (w)$_A^\#$	0.05							µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^\#$	0.05							µg/l	0.01	A-T-019w
Fluorene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Naphthalene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^\#$	0.02							µg/l	0.01	A-T-019w
Pyrene (w)$_A^\#$	0.07							µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^\#$	0.23							µg/l	0.01	A-T-019w

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
SVOC (excluding PAH-16) (w)										
2,4,5-Trichlorophenol$_A$	<2							µg/l	1	A-T-052w
2,4,6-Trichlorophenol (w)$_A$	<2							µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<2							µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<2							µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<2							µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<2							µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<2							µg/l	1	A-T-052w
2-Chlorophenol$_A$	<2							µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<2							µg/l	1	A-T-052w
2-Methylphenol$_A$	<2							µg/l	1	A-T-052w
2-Nitrophenol$_A$	<2							µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<2							µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<2							µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<2							µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<2							µg/l	1	A-T-052w
4-Nitrophenol$_A$	<2							µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<2							µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<2							µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<20							µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<2							µg/l	1	A-T-052w
Carbazole$_A$	<2							µg/l	1	A-T-052w
Dibenzofuran$_A$	<2							µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<2							µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<20							µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<2							µg/l	1	A-T-052w
Diethyl phthalate$_A$	<2							µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<2							µg/l	1	A-T-052w
Hexachlorobenzene$_A$	<2							µg/l	1	A-T-052w
Pentachlorophenol (SVOC)$_A$	<2							µg/l	1	A-T-052w
Phenol$_A$	<2							µg/l	1	A-T-052w
Hexachloroethane$_A$	<2							µg/l	1	A-T-052w
Nitrobenzene$_A$	<2							µg/l	1	A-T-052w

Envirolab Job Number: 22/03695

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
Isophorone$_A$	<2							µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<2							µg/l	1	A-T-052w
Perylene$_A$	<2							µg/l	1	A-T-052w

Envirolab Job Number: 22/03695

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
VOC (w)										
Dichlorodifluoromethane$_A$	<1							µg/l	1	A-T-006w
Chloromethane$_A$	<10							µg/l	10	A-T-006w
Vinyl Chloride$_A^\#$	<1							µg/l	1	A-T-006w
Bromomethane$_A^\#$	<1							µg/l	1	A-T-006w
Chloroethane$_A^\#$	<1							µg/l	1	A-T-006w
Trichlorofluoromethane$_A^\#$	<1							µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
Dichloromethane$_A$	<5							µg/l	5	A-T-006w
Carbon Disulphide$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
Bromochloromethane$_A^\#$	<5							µg/l	5	A-T-006w
Chloroform$_A^\#$	<1							µg/l	1	A-T-006w
2,2-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichloroethane$_A^\#$	<2							µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
Benzene$_A^\#$	<1							µg/l	1	A-T-006w
Carbon Tetrachloride$_A^\#$	<1							µg/l	1	A-T-006w
Dibromomethane$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Bromodichloromethane$_A^\#$	<10							µg/l	10	A-T-006w
Trichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
Toluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Dibromochloromethane$_A^\#$	<3							µg/l	3	A-T-006w
1,2-Dibromoethane$_A^\#$	<1							µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1							µg/l	1	A-T-006w

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
1,1,1,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1							µg/l	1	A-T-006w
Bromoform$_A^\#$	<1							µg/l	1	A-T-006w
Styrene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1							µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2							µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2							µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 22/03695

Client Project Name: Brickworks, Llandudno

Client Project Ref: 2230642

Lab Sample ID	22/03695/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH04B									
Depth to Top	10.50									
Depth To Bottom										
Date Sampled	11-Apr-22									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
TPH UKCWG (w) with Clean Up *C1										
Ali >C5-C6 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C35-C44 $(w)_A$	<5							µg/l	5	A-T-055w
Total Aliphatics $(w)_A$	<5							µg/l	5	A-T-055w
Aro >C5-C7 $(w)_A^{\#}$	1							µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5							µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	14							µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	36							µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	22							µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10							µg/l	10	A-T-055w
Aro >C35-C44 $(w)_A$	<5							µg/l	5	A-T-055w
Total Aromatics $(w)_A$	73							µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C44) $(w)_A$	73							µg/l	10	A-T-055w
BTEX - Benzene $(w)_A^{\#}$	1							µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1							µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.
Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Ian Farmer Associates (Warrington), 14/15 Rufford Court, Hardwick Grange, Warrington, WA1 4RF

Project: Brickworks, Llandudno

Clients Project No: 2230642

Project No: 22/03695

Date Received: 19/04/2022 (am)

Cool Box Temperatures (°C): 10.3

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/03695/1
Client Sample No	
Client Sample ID/Depth	BH04B 10.50m
Date Sampled	11/04/22
A-T-006w	21/04/2022
A-T-019w	21/04/2022
A-T-022w	21/04/2022
A-T-025w	28/04/2022
A-T-031w	21/04/2022
A-T-032w	21/04/2022
A-T-040w	26/04/2022
A-T-042wFCN	26/04/2022
A-T-042wTCN	21/04/2022
A-T-049w	21/04/2022
A-T-050w	26/04/2022
A-T-052w	26/04/2022
A-T-055w	22/04/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

IAN FARMER ASSOCIATES

HazWasteOnline™

Waste Classification Report

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

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

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

WJTQL-DJDBN-8508B

Job name

2230642 Brickworks Llandudno

Description/Comments

Project

Site

Classified by

Name:
Victoria Tickner
Date:
28 Feb 2022 13:59 GMT
Telephone:
01582 460018

Company:
Ian Farmer Associates
1A Baford Mill
Lower Luton Road
Harpenden
AL5 5BZ

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

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	05 Aug 2021

Next 3 year Refresher due by Aug 2024

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH01A[4]	0.50	Non Hazardous		3
2	BH01A[5]	3.00	Non Hazardous		6
3	BH01A[6]	11.50	Non Hazardous		9
4	BH02A[3]	0.20	Non Hazardous		12
5	BH02A[4]	2.00	Non Hazardous		15
6	BH03A[4]	0.20	Non Hazardous		18
7	BH03A[5]	5.00	Non Hazardous		21
8	BH03A[6]	13.00	Non Hazardous		24
9	BH04A[3]	0.50	Non Hazardous		27
10	BH04A[4]	7.00	Non Hazardous		30
11	BH04B[2]	15.00	Non Hazardous		33
12	BH05A[4]	0.50	Non Hazardous		36
13	BH05A[5]	4.00	Non Hazardous		39
14	BH05A[6]	11.00	Hazardous	HP 3(i), HP 7, HP 11	42
15	BH06A[4]	0.20	Non Hazardous		46
16	BH06A[5]	6.00	Non Hazardous		49
17	BH06A[6]	16.50	Non Hazardous		52
18	BH07A[4]	1.00	Non Hazardous		55
19	BH07A[5]	3.00	Non Hazardous		58
20	BH07A[6]	6.00	Non Hazardous		61
21	BH08A[3]	0.20	Non Hazardous		64
22	BH08A[4]	2.20	Non Hazardous		67
23	TP04[2]	0.50	Non Hazardous		70

Related documents

#	Name	Description
1	New Template 2022	waste stream template used to create this Job

Report

Created by: Victoria Tickner

Created date: 28 Feb 2022 13:59 GMT

Classification of sample: BH01A[4]

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

Sample details

Sample name:
BH01A[4]

Sample Depth:
0.50 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.08 pH		9.08 pH	9.08 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				2 mg/kg	1.895	3.789 mg/kg	0.000379 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		55 mg/kg	1.233	67.842 mg/kg	0.00678 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.6 mg/kg	1.855	1.113 mg/kg	0.000111 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17 mg/kg	1.462	24.846 mg/kg	0.00248 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		14 mg/kg	3.929	55.007 mg/kg	0.0055 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	27 mg/kg	1.56	42.115 mg/kg	0.0027 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		305 mg/kg	2.749	838.312 mg/kg	0.0838 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.44 mg/kg		0.44 mg/kg	0.000044 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				15	mg/kg	5.324	79.865	mg/kg	0.00799 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				14	mg/kg	1.785	24.993	mg/kg	0.0025 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				48	mg/kg	2.469	118.526	mg/kg	0.0119 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				1.92	mg/kg		1.92	mg/kg	0.000192 %		
			201-469-6	83-32-9									
22		anthracene				2.01	mg/kg		2.01	mg/kg	0.000201 %		
			204-371-1	120-12-7									
23		benzo[a]anthracene				1.17	mg/kg		1.17	mg/kg	0.000117 %		
		601-033-00-9	200-280-6	56-55-3									
24		benzo[b]fluoranthene				0.865	mg/kg		0.865	mg/kg	0.0000865 %		
		601-034-00-4	205-911-9	205-99-2									
25		benzo[k]fluoranthene				0.249	mg/kg		0.249	mg/kg	0.0000249 %		
		601-036-00-5	205-916-6	207-08-9									
26		benzo[a]pyrene; benzo[def]chrysene				0.677	mg/kg		0.677	mg/kg	0.0000677 %		
		601-032-00-3	200-028-5	50-32-8									
27		benzo[ghi]perylene				0.354	mg/kg		0.354	mg/kg	0.0000354 %		
			205-883-8	191-24-2									
28		chrysene				0.892	mg/kg		0.892	mg/kg	0.0000892 %		
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				4.33	mg/kg		4.33	mg/kg	0.000433 %		
			205-912-4	206-44-0									
30		fluorene				1.68	mg/kg		1.68	mg/kg	0.000168 %		
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				0.418	mg/kg		0.418	mg/kg	0.0000418 %		
			205-893-2	193-39-5									
32		phenanthrene				5.54	mg/kg		5.54	mg/kg	0.000554 %		
			201-581-5	85-01-8									
33		pyrene				3.4	mg/kg		3.4	mg/kg	0.00034 %		
			204-927-3	129-00-0									
34		naphthalene				0.128	mg/kg		0.128	mg/kg	0.0000128 %		
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				51	mg/kg		51	mg/kg	0.0051 %		
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				0.798	mg/kg		0.798	mg/kg	0.0000798 %		
			205-071-3	132-64-9									
43	●	carbazole				0.111	mg/kg		0.111	mg/kg	0.0000111 %		
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.135 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0051%)

Classification of sample: BH01A[5]

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

Sample details

Sample name:
BH01A[5]
Sample Depth:
3.00 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.81 pH		7.81 pH	7.81 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8 mg/kg	1.895	15.156 mg/kg	0.00152 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		62 mg/kg	1.233	76.477 mg/kg	0.00765 %		
6	beryllium { beryllium chloride }			7787-47-5		1 mg/kg	8.868	8.868 mg/kg	0.000887 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		3.1 mg/kg	23.173	71.836 mg/kg	0.00718 %		
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.5 mg/kg	1.855	2.782 mg/kg	0.000278 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36 mg/kg	1.462	52.616 mg/kg	0.00526 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		21 mg/kg	3.929	82.51 mg/kg	0.00825 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	29 mg/kg	1.56	45.235 mg/kg	0.0029 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		419 mg/kg	2.749	1151.648 mg/kg	0.115 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3	mg/kg	1.5	4.501	mg/kg	0.00045 %		
16		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		34	mg/kg	5.324	181.026	mg/kg	0.0181 %		
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		42	mg/kg	1.785	74.978	mg/kg	0.0075 %		
19		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		97	mg/kg	2.469	239.522	mg/kg	0.024 %		
20		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<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		benzo[ghi]perylene		205-883-8	191-24-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
28		chrysene	601-048-00-0	205-923-4	218-01-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
29		fluoranthene		205-912-4	206-44-0		0.167	mg/kg		0.167	mg/kg	0.0000167 %		
30		fluorene		201-695-5	86-73-7		<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		phenanthrene		201-581-5	85-01-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
33		pyrene		204-927-3	129-00-0		0.151	mg/kg		0.151	mg/kg	0.0000151 %		
34		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35		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
36		TPH (C6 to C40) petroleum group			TPH		23	mg/kg		23	mg/kg	0.0023 %		
37		benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
38		toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40		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]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.202 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0023%)

Classification of sample: BH01A[6]

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

Sample details

Sample name:
BH01A[6]

Sample Depth:
11.50 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.95 pH		7.95 pH	7.95 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				7 mg/kg	1.895	13.262 mg/kg	0.00133 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		69 mg/kg	1.233	85.111 mg/kg	0.00851 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.7 mg/kg	1.855	3.153 mg/kg	0.000315 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28 mg/kg	1.462	40.924 mg/kg	0.00409 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		27 mg/kg	3.929	106.084 mg/kg	0.0106 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	51 mg/kg	1.56	79.551 mg/kg	0.0051 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		279 mg/kg	2.749	766.849 mg/kg	0.0767 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				39	mg/kg	5.324	207.648	mg/kg	0.0208 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				15	mg/kg	1.785	26.778	mg/kg	0.00268 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				75	mg/kg	2.469	185.197	mg/kg	0.0185 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				6	mg/kg		6	mg/kg	0.0006 %		
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.153 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0006%)

Classification of sample: BH02A[3]

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

Sample details

Sample name:
BH02A[3]
Sample Depth:
0.20 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.43 pH		8.43 pH	8.43 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				3 mg/kg	1.895	5.684 mg/kg	0.000568 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		62 mg/kg	1.233	76.477 mg/kg	0.00765 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		1.6 mg/kg	23.173	37.077 mg/kg	0.00371 %		
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.9 mg/kg	1.855	1.669 mg/kg	0.000167 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		20 mg/kg	3.929	78.581 mg/kg	0.00786 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30 mg/kg	1.56	46.794 mg/kg	0.003 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		381 mg/kg	2.749	1047.203 mg/kg	0.105 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.37 mg/kg		0.37 mg/kg	0.000037 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				21	mg/kg	5.324	111.81	mg/kg	0.0112 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				17	mg/kg	1.785	30.348	mg/kg	0.00303 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				61	mg/kg	2.469	150.627	mg/kg	0.0151 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		benzo[b]fluoranthene				0.132	mg/kg		0.132	mg/kg	0.0000132 %		
		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				0.162	mg/kg		0.162	mg/kg	0.0000162 %		
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				0.157	mg/kg		0.157	mg/kg	0.0000157 %		
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				33	mg/kg		33	mg/kg	0.0033 %		
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				2.95	mg/kg		2.95	mg/kg	0.000295 %		
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.165 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0033%)

Classification of sample: BH02A[4]

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

Sample details

Sample name:
BH02A[4]

Sample Depth:
2.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.97 pH		7.97 pH	7.97 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		**<LOD**
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		**<LOD**
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				9 mg/kg	1.895	17.051 mg/kg	0.00171 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		167 mg/kg	1.233	205.993 mg/kg	0.0206 %		
6	beryllium { beryllium chloride }			7787-47-5		0.9 mg/kg	8.868	7.981 mg/kg	0.000798 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		4.4 mg/kg	23.173	101.961 mg/kg	0.0102 %		
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.9 mg/kg	1.855	3.524 mg/kg	0.000352 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33 mg/kg	1.462	48.231 mg/kg	0.00482 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		**<LOD**
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		57 mg/kg	3.929	223.956 mg/kg	0.0224 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	96 mg/kg	1.56	149.742 mg/kg	0.0096 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		580 mg/kg	2.749	1594.167 mg/kg	0.159 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.67 mg/kg		0.67 mg/kg	0.000067 %		

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3	mg/kg	1.5	4.501	mg/kg	0.00045 %		
16	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		37	mg/kg	5.324	196.999	mg/kg	0.0197 %		
17	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
18	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		27	mg/kg	1.785	48.2	mg/kg	0.00482 %		
19	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		203	mg/kg	2.469	501.267	mg/kg	0.0501 %		
20	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
22	anthracene		204-371-1	120-12-7		0.201	mg/kg		0.201	mg/kg	0.0000201 %		
23	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.17	mg/kg		1.17	mg/kg	0.000117 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.32	mg/kg		1.32	mg/kg	0.000132 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.413	mg/kg		0.413	mg/kg	0.0000413 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.01	mg/kg		1.01	mg/kg	0.000101 %		
27	benzo[ghi]perylene		205-883-8	191-24-2		0.496	mg/kg		0.496	mg/kg	0.0000496 %		
28	chrysene	601-048-00-0	205-923-4	218-01-9		0.911	mg/kg		0.911	mg/kg	0.0000911 %		
29	fluoranthene		205-912-4	206-44-0		1.84	mg/kg		1.84	mg/kg	0.000184 %		
30	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
31	indeno[123-cd]pyrene		205-893-2	193-39-5		0.596	mg/kg		0.596	mg/kg	0.0000596 %		
32	phenanthrene		201-581-5	85-01-8		0.671	mg/kg		0.671	mg/kg	0.0000671 %		
33	pyrene		204-927-3	129-00-0		1.58	mg/kg		1.58	mg/kg	0.000158 %		
34	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
35	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.128	mg/kg		0.128	mg/kg	0.0000128 %		
36	TPH (C6 to C40) petroleum group			TPH		120	mg/kg		120	mg/kg	0.012 %		
37	benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
38	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
40	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]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
41	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				5.33	mg/kg		5.33	mg/kg	0.000533 %		
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.319 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.012%)

Classification of sample: BH03A[4]

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

Sample details

Sample name:
BH03A[4]
Sample Depth:
0.20 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.9 pH		8.9 pH	8.9 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				3 mg/kg	1.895	5.684 mg/kg	0.000568 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		60 mg/kg	1.233	74.01 mg/kg	0.0074 %		
6	beryllium { beryllium chloride }			7787-47-5		0.6 mg/kg	8.868	5.321 mg/kg	0.000532 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.1 mg/kg	1.855	2.04 mg/kg	0.000204 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		24 mg/kg	3.929	94.297 mg/kg	0.00943 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		448 mg/kg	2.749	1231.357 mg/kg	0.123 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	1.01 mg/kg		1.01 mg/kg	0.000101 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				22	mg/kg	5.324	117.135	mg/kg	0.0117 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				17	mg/kg	1.785	30.348	mg/kg	0.00303 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				71	mg/kg	2.469	175.32	mg/kg	0.0175 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				0.281	mg/kg		0.281	mg/kg	0.0000281 %		
		601-033-00-9	200-280-6	56-55-3									
24		benzo[b]fluoranthene				0.339	mg/kg		0.339	mg/kg	0.0000339 %		
		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				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-032-00-3	200-028-5	50-32-8									
27		benzo[ghi]perylene				0.118	mg/kg		0.118	mg/kg	0.0000118 %		
			205-883-8	191-24-2									
28		chrysene				0.238	mg/kg		0.238	mg/kg	0.0000238 %		
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				0.521	mg/kg		0.521	mg/kg	0.0000521 %		
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-893-2	193-39-5									
32		phenanthrene				0.266	mg/kg		0.266	mg/kg	0.0000266 %		
			201-581-5	85-01-8									
33		pyrene				0.455	mg/kg		0.455	mg/kg	0.0000455 %		
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				224	mg/kg		224	mg/kg	0.0224 %		
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.205 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0224%)

Classification of sample: BH03A[5]

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

Sample details

Sample name:
BH03A[5]

Sample Depth:
5.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.46 pH		8.46 pH	8.46 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		**<LOD**
3	monohydric phenols			P1186		0.5 mg/kg		0.5 mg/kg	0.00005 %		
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				4 mg/kg	1.895	7.578 mg/kg	0.000758 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		111 mg/kg	1.233	136.918 mg/kg	0.0137 %		
6	beryllium { beryllium chloride }			7787-47-5		0.9 mg/kg	8.868	7.981 mg/kg	0.000798 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		**<LOD**
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.3 mg/kg	1.855	2.411 mg/kg	0.000241 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33 mg/kg	1.462	48.231 mg/kg	0.00482 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		**<LOD**
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		38 mg/kg	3.929	149.304 mg/kg	0.0149 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	52 mg/kg	1.56	81.11 mg/kg	0.0052 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		638 mg/kg	2.749	1753.584 mg/kg	0.175 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.22 mg/kg		0.22 mg/kg	0.000022 %		

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
16	nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		31	mg/kg	5.324	165.053	mg/kg	0.0165 %		
17	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
18	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		32	mg/kg	1.785	57.126	mg/kg	0.00571 %		
19	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		101	mg/kg	2.469	249.399	mg/kg	0.0249 %		
20	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21	acenaphthene		201-469-6	83-32-9		0.144	mg/kg		0.144	mg/kg	0.0000144 %		
22	anthracene		204-371-1	120-12-7		0.315	mg/kg		0.315	mg/kg	0.0000315 %		
23	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.7	mg/kg		0.7	mg/kg	0.00007 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.861	mg/kg		0.861	mg/kg	0.0000861 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.263	mg/kg		0.263	mg/kg	0.0000263 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.653	mg/kg		0.653	mg/kg	0.0000653 %		
27	benzo[ghi]perylene		205-883-8	191-24-2		0.329	mg/kg		0.329	mg/kg	0.0000329 %		
28	chrysene	601-048-00-0	205-923-4	218-01-9		0.634	mg/kg		0.634	mg/kg	0.0000634 %		
29	fluoranthene		205-912-4	206-44-0		1.63	mg/kg		1.63	mg/kg	0.000163 %		
30	fluorene		201-695-5	86-73-7		0.329	mg/kg		0.329	mg/kg	0.0000329 %		
31	indeno[123-cd]pyrene		205-893-2	193-39-5		0.393	mg/kg		0.393	mg/kg	0.0000393 %		
32	phenanthrene		201-581-5	85-01-8		1.24	mg/kg		1.24	mg/kg	0.000124 %		
33	pyrene		204-927-3	129-00-0		1.41	mg/kg		1.41	mg/kg	0.000141 %		
34	naphthalene	601-052-00-2	202-049-5	91-20-3		4.15	mg/kg		4.15	mg/kg	0.000415 %		
35	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
36	TPH (C6 to C40) petroleum group			TPH		83	mg/kg		83	mg/kg	0.0083 %		
37	benzene	601-020-00-8	200-753-7	71-43-2		0.07	mg/kg		0.07	mg/kg	0.000007 %		
38	toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
39	ethylbenzene	601-023-00-4	202-849-4	100-41-4		0.04	mg/kg		0.04	mg/kg	0.000004 %		
40	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]		0.09	mg/kg		0.09	mg/kg	0.000009 %		
41	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				0.272	mg/kg		0.272	mg/kg	0.0000272 %		
			205-071-3	132-64-9									
43	●	carbazole				0.142	mg/kg		0.142	mg/kg	0.0000142 %		
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	0.355	mg/kg		0.355	mg/kg	0.0000355 %		
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				0.013	mg/kg		0.013	mg/kg	0.0000013 %		
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				0.053	mg/kg		0.053	mg/kg	0.0000053 %		
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				0.001	mg/kg		0.001	mg/kg	0.0000001 %		
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.276 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

benzene: (conc.: 7.0e-06%)
ethylbenzene: (conc.: 4.0e-06%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0083%)
xylene: (conc.: 9.0e-06%)
mesitylene; 1,3,5-trimethylbenzene: (conc.: 1.3e-06%)
1,2,4-trimethylbenzene: (conc.: 5.3e-06%)
4-isopropyltoluene: (conc.: 1.0e-07%)

Classification of sample: BH03A[6]

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

Sample details

Sample name:
BH03A[6]
Sample Depth:
13.00 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.13 pH		9.13 pH	9.13 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				2 mg/kg	1.895	3.789 mg/kg	0.000379 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		64 mg/kg	1.233	78.944 mg/kg	0.00789 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.6 mg/kg	1.855	1.113 mg/kg	0.000111 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	29.231 mg/kg	0.00292 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		11 mg/kg	3.929	43.22 mg/kg	0.00432 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	8 mg/kg	1.56	12.479 mg/kg	0.0008 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		375 mg/kg	2.749	1030.711 mg/kg	0.103 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				20	mg/kg	5.324	106.486	mg/kg	0.0106 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				20	mg/kg	1.785	35.704	mg/kg	0.00357 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				34	mg/kg	2.469	83.956	mg/kg	0.0084 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									
43		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
48		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
50		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-227-0	135-98-8									
51		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.146 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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
CLP: Note H	Known incomplete entry, should not be used as is

Classification of sample: BH04A[3]

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

Sample details

Sample name:
BH04A[3]

Sample Depth:
0.50 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.5 pH		8.5 pH	8.5 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				4 mg/kg	1.895	7.578 mg/kg	0.000758 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		68 mg/kg	1.233	83.878 mg/kg	0.00839 %		
6	beryllium { beryllium chloride }			7787-47-5		0.6 mg/kg	8.868	5.321 mg/kg	0.000532 %		
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.1 mg/kg	1.855	2.04 mg/kg	0.000204 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22 mg/kg	1.462	32.154 mg/kg	0.00322 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		30 mg/kg	3.929	117.872 mg/kg	0.0118 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28 mg/kg	1.56	43.675 mg/kg	0.0028 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		528 mg/kg	2.749	1451.242 mg/kg	0.145 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				27	mg/kg	5.324	143.756	mg/kg	0.0144 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				21	mg/kg	1.785	37.489	mg/kg	0.00375 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				78	mg/kg	2.469	192.605	mg/kg	0.0193 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				0.184	mg/kg		0.184	mg/kg	0.0000184 %		
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.418	mg/kg		0.418	mg/kg	0.0000418 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.481	mg/kg		0.481	mg/kg	0.0000481 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				0.114	mg/kg		0.114	mg/kg	0.0000114 %		
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.36	mg/kg		0.36	mg/kg	0.000036 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				0.203	mg/kg		0.203	mg/kg	0.0000203 %		
			205-883-8	191-24-2									
27		chrysene				0.326	mg/kg		0.326	mg/kg	0.0000326 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.866	mg/kg		0.866	mg/kg	0.0000866 %		
			205-912-4	206-44-0									
29		fluorene				0.109	mg/kg		0.109	mg/kg	0.0000109 %		
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				0.212	mg/kg		0.212	mg/kg	0.0000212 %		
			205-893-2	193-39-5									
31		phenanthrene				0.611	mg/kg		0.611	mg/kg	0.0000611 %		
			201-581-5	85-01-8									
32		pyrene				0.72	mg/kg		0.72	mg/kg	0.000072 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				30	mg/kg		30	mg/kg	0.003 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.214 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.003%)

Classification of sample: BH04A[4]

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

Sample details

Sample name:
BH04A[4]
Sample Depth:
7.00 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		9.27 pH		9.27 pH	9.27 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				4 mg/kg	1.895	7.578 mg/kg	0.000758 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		73 mg/kg	1.233	90.045 mg/kg	0.009 %		
6	beryllium { beryllium chloride }			7787-47-5		0.7 mg/kg	8.868	6.208 mg/kg	0.000621 %		
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.1 mg/kg	1.855	2.04 mg/kg	0.000204 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	45.308 mg/kg	0.00453 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		20 mg/kg	3.929	78.581 mg/kg	0.00786 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	23.397 mg/kg	0.0015 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		639 mg/kg	2.749	1756.332 mg/kg	0.176 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				31	mg/kg	5.324	165.053	mg/kg	0.0165 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				29	mg/kg	1.785	51.77	mg/kg	0.00518 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				60	mg/kg	2.469	148.158	mg/kg	0.0148 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
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		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		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									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.129	mg/kg		0.129	mg/kg	0.0000129 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
32		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				3	mg/kg		3	mg/kg	0.0003 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.238 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0003%)

Classification of sample: BH04B[2]

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

Sample details

Sample name:
BH04B[2]
Sample Depth:
15.00 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.58 pH		8.58 pH	8.58 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				<1 mg/kg	1.895	<1.895 mg/kg	<0.000189 %		<LOD
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		165 mg/kg	1.233	203.526 mg/kg	0.0204 %		
6	beryllium { beryllium chloride }			7787-47-5		0.9 mg/kg	8.868	7.981 mg/kg	0.000798 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1 mg/kg	1.855	1.855 mg/kg	0.000185 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43 mg/kg	1.462	62.847 mg/kg	0.00628 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		22 mg/kg	3.929	86.439 mg/kg	0.00864 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	23.397 mg/kg	0.0015 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		760 mg/kg	2.749	2088.909 mg/kg	0.209 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				44	mg/kg	5.324	234.269	mg/kg	0.0234 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				42	mg/kg	1.785	74.978	mg/kg	0.0075 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				82	mg/kg	2.469	202.482	mg/kg	0.0202 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.301 %		

Key

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

Classification of sample: BH05A[4]

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

Sample details

Sample name:
BH05A[4]
Sample Depth:
0.50 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.56 pH		8.56 pH	8.56 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				1 mg/kg	1.895	1.895 mg/kg	0.000189 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		66 mg/kg	1.233	81.411 mg/kg	0.00814 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.6 mg/kg	1.855	1.113 mg/kg	0.000111 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	21.923 mg/kg	0.00219 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		11 mg/kg	3.929	43.22 mg/kg	0.00432 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	23.397 mg/kg	0.0015 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		296 mg/kg	2.749	813.575 mg/kg	0.0814 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.92 mg/kg		0.92 mg/kg	0.000092 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				12	mg/kg	5.324	63.892	mg/kg	0.00639 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				13	mg/kg	1.785	23.207	mg/kg	0.00232 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				38	mg/kg	2.469	93.833	mg/kg	0.00938 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				0.281	mg/kg		0.281	mg/kg	0.0000281 %		
		601-033-00-9	200-280-6	56-55-3									
24		benzo[b]fluoranthene				0.389	mg/kg		0.389	mg/kg	0.0000389 %		
		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				0.293	mg/kg		0.293	mg/kg	0.0000293 %		
		601-032-00-3	200-028-5	50-32-8									
27		benzo[ghi]perylene				0.181	mg/kg		0.181	mg/kg	0.0000181 %		
			205-883-8	191-24-2									
28		chrysene				0.266	mg/kg		0.266	mg/kg	0.0000266 %		
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				0.582	mg/kg		0.582	mg/kg	0.0000582 %		
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				0.198	mg/kg		0.198	mg/kg	0.0000198 %		
			205-893-2	193-39-5									
32		phenanthrene				0.229	mg/kg		0.229	mg/kg	0.0000229 %		
			201-581-5	85-01-8									
33		pyrene				0.525	mg/kg		0.525	mg/kg	0.0000525 %		
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				14	mg/kg		14	mg/kg	0.0014 %		
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										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 Deteminand - 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
CLP: Note H	Known incomplete entry, should not be used as is

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0014%)

Classification of sample: BH05A[5]

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

Sample details

Sample name:
BH05A[5]

Sample Depth:
4.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.98 pH		7.98 pH	7.98 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				<1 mg/kg	1.895	<1.895 mg/kg	<0.000189 %		<LOD
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		77 mg/kg	1.233	94.979 mg/kg	0.0095 %		
6	beryllium { beryllium chloride }			7787-47-5		0.9 mg/kg	8.868	7.981 mg/kg	0.000798 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.3 mg/kg	1.855	2.411 mg/kg	0.000241 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32 mg/kg	1.462	46.77 mg/kg	0.00468 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		24 mg/kg	3.929	94.297 mg/kg	0.00943 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	31.196 mg/kg	0.002 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		623 mg/kg	2.749	1712.355 mg/kg	0.171 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				41	mg/kg	5.324	218.296	mg/kg	0.0218 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				24	mg/kg	1.785	42.844	mg/kg	0.00428 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				78	mg/kg	2.469	192.605	mg/kg	0.0193 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			205-071-3	132-64-9									
43	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				0.002	mg/kg		0.002	mg/kg	0.0000002 %		
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
48	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
50	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
51	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.247 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

carbon disulphide: (conc.: 2.0e-07%)

Classification of sample: BH05A[6]

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

Sample details

Sample name:	LoW Code:	
BH05A[6]	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:		
11.00 m	Entry:	17 05 03 * (Soil and stones containing hazardous substances)

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.: 0.407%)

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.: 0.407%)

Hazard properties (substances considered hazardous until shown otherwise)

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"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

ethylbenzene: (conc.: 2.0e-06%)
carbon disulphide: (conc.: 1.0e-07%)

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.407%)
xylene: (conc.: 7.0e-06%)
mesitylene; 1,3,5-trimethylbenzene: (conc.: 0.0001%)
tert-butylbenzene: (conc.: 3.0e-07%)
1,2,4-trimethylbenzene: (conc.: 0.00002%)
sec-butylbenzene: (conc.: 8.0e-07%)
4-isopropyltoluene: (conc.: 0.00001%)

Determinands

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

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		pH			PH		9.76	pH		9.76	pH	9.76 pH		
2		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
3		monohydric phenols			P1186		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
4		arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				8	mg/kg	1.895	15.156	mg/kg	0.00152 %		
5		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		84	mg/kg	1.233	103.613	mg/kg	0.0104 %		
6		beryllium { beryllium chloride }			7787-47-5		0.5	mg/kg	8.868	4.434	mg/kg	0.000443 %		
7		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1	mg/kg	23.173	<23.173	mg/kg	<0.00232 %		<LOD
8		cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		2.2	mg/kg	1.855	4.08	mg/kg	0.000408 %		
9		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		146	mg/kg	1.462	213.387	mg/kg	0.0213 %		
10		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
11		copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		163	mg/kg	3.929	640.436	mg/kg	0.064 %		
12		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	35	mg/kg	1.56	54.594	mg/kg	0.0035 %		
13		manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		567	mg/kg	2.749	1558.436	mg/kg	0.156 %		
14		mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.91	mg/kg		0.91	mg/kg	0.000091 %		
15		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6	mg/kg	1.5	9.001	mg/kg	0.0009 %		
16		nickel { nickel diiodide }	028-029-00-4	236-666-6	13462-90-3		51	mg/kg	5.324	271.539	mg/kg	0.0272 %		
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
18		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		20	mg/kg	1.785	35.704	mg/kg	0.00357 %		
19		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		810	mg/kg	2.469	2000.13	mg/kg	0.2 %		
20		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
21		acenaphthene		201-469-6	83-32-9		1.56	mg/kg		1.56	mg/kg	0.000156 %		
22		anthracene		204-371-1	120-12-7		4.39	mg/kg		4.39	mg/kg	0.000439 %		
23		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		4.71	mg/kg		4.71	mg/kg	0.000471 %		
24		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.91	mg/kg		3.91	mg/kg	0.000391 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
25		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.34	mg/kg		1.34	mg/kg	0.000134 %		
26		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.96	mg/kg		2.96	mg/kg	0.000296 %		
27	●	benzo[ghi]perylene		205-883-8	191-24-2		1.63	mg/kg		1.63	mg/kg	0.000163 %		
28		chrysene	601-048-00-0	205-923-4	218-01-9		3.92	mg/kg		3.92	mg/kg	0.000392 %		
29	●	fluoranthene		205-912-4	206-44-0		13	mg/kg		13	mg/kg	0.0013 %		
30	●	fluorene		201-695-5	86-73-7		2.18	mg/kg		2.18	mg/kg	0.000218 %		
31	●	indeno[123-cd]pyrene		205-893-2	193-39-5		1.98	mg/kg		1.98	mg/kg	0.000198 %		
32	●	phenanthrene		201-581-5	85-01-8		10.5	mg/kg		10.5	mg/kg	0.00105 %		
33	●	pyrene		204-927-3	129-00-0		10.7	mg/kg		10.7	mg/kg	0.00107 %		
34		naphthalene	601-052-00-2	202-049-5	91-20-3		0.641	mg/kg		0.641	mg/kg	0.0000641 %		
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.382	mg/kg		0.382	mg/kg	0.0000382 %		
36	●	TPH (C6 to C40) petroleum group			TPH		4070	mg/kg		4070	mg/kg	0.407 %		
37		benzene	601-020-00-8	200-753-7	71-43-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
38		toluene	601-021-00-3	203-625-9	108-88-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
39	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		0.02	mg/kg		0.02	mg/kg	0.000002 %		
40		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]		0.07	mg/kg		0.07	mg/kg	0.000007 %		
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		**<LOD**
42	●	dibenzofuran		205-071-3	132-64-9		1.09	mg/kg		1.09	mg/kg	0.000109 %		
43	●	carbazole		201-696-0	86-74-8		0.531	mg/kg		0.531	mg/kg	0.0000531 %		
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP	607-317-00-9	204-211-0	117-81-7		7.2	mg/kg		7.2	mg/kg	0.00072 %		
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]	648-122-00-9	284-895-5	84989-06-0	H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
46		carbon disulphide	006-003-00-3	200-843-6	75-15-0		0.001	mg/kg		0.001	mg/kg	0.0000001 %		
47		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		1.08	mg/kg		1.08	mg/kg	0.000108 %		
48	●	tert-butylbenzene		202-632-4	98-06-6		0.003	mg/kg		0.003	mg/kg	0.0000003 %		
49		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		0.206	mg/kg		0.206	mg/kg	0.0000206 %		
50	●	sec-butylbenzene		205-227-0	135-98-8		0.008	mg/kg		0.008	mg/kg	0.0000008 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
51		4-isopropyltoluene				0.125	mg/kg		0.125	mg/kg	0.0000125 %		
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				0.001	mg/kg		0.001	mg/kg	0.0000001 %		
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.906 %		

Key

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

Classification of sample: BH06A[4]

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

Sample details

Sample name:
BH06A[4]
Sample Depth:
0.20 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.82 pH		8.82 pH	8.82 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				3 mg/kg	1.895	5.684 mg/kg	0.000568 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		199 mg/kg	1.233	245.465 mg/kg	0.0245 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1 mg/kg	1.855	1.855 mg/kg	0.000185 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	21.923 mg/kg	0.00219 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		16 mg/kg	3.929	62.865 mg/kg	0.00629 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	32 mg/kg	1.56	49.914 mg/kg	0.0032 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		294 mg/kg	2.749	808.078 mg/kg	0.0808 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	1.39 mg/kg		1.39 mg/kg	0.000139 %		
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				10	mg/kg	5.324	53.243	mg/kg	0.00532 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				12	mg/kg	1.785	21.422	mg/kg	0.00214 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				79	mg/kg	2.469	195.074	mg/kg	0.0195 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				0.138	mg/kg		0.138	mg/kg	0.0000138 %		
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.604	mg/kg		0.604	mg/kg	0.0000604 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.821	mg/kg		0.821	mg/kg	0.0000821 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				0.307	mg/kg		0.307	mg/kg	0.0000307 %		
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
			205-883-8	191-24-2									
27		chrysene				0.553	mg/kg		0.553	mg/kg	0.0000553 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.976	mg/kg		0.976	mg/kg	0.0000976 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				0.426	mg/kg		0.426	mg/kg	0.0000426 %		
			205-893-2	193-39-5									
31		phenanthrene				0.452	mg/kg		0.452	mg/kg	0.0000452 %		
			201-581-5	85-01-8									
32		pyrene				0.969	mg/kg		0.969	mg/kg	0.0000969 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		dibenz[a,h]anthracene				102	mg/kg		102	mg/kg	0.0102 %		
		601-041-00-2	200-181-8	53-70-3									
35		TPH (C6 to C40) petroleum group				175	mg/kg		175	mg/kg	0.0175 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.174 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0175%)

Classification of sample: BH06A[5]

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

Sample details

Sample name:
BH06A[5]

Sample Depth:
6.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.43 pH		8.43 pH	8.43 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				4 mg/kg	1.895	7.578 mg/kg	0.000758 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		44 mg/kg	1.233	54.274 mg/kg	0.00543 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.9 mg/kg	1.855	1.669 mg/kg	0.000167 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16 mg/kg	1.462	23.385 mg/kg	0.00234 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		23 mg/kg	3.929	90.368 mg/kg	0.00904 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28 mg/kg	1.56	43.675 mg/kg	0.0028 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		398 mg/kg	2.749	1093.928 mg/kg	0.109 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				21	mg/kg	5.324	111.81	mg/kg	0.0112 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				15	mg/kg	1.785	26.778	mg/kg	0.00268 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				84	mg/kg	2.469	207.421	mg/kg	0.0207 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.257	mg/kg		0.257	mg/kg	0.0000257 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.164	mg/kg		0.164	mg/kg	0.0000164 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				0.162	mg/kg		0.162	mg/kg	0.0000162 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.356	mg/kg		0.356	mg/kg	0.0000356 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			201-581-5	85-01-8									
32		pyrene				0.301	mg/kg		0.301	mg/kg	0.0000301 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				5	mg/kg		5	mg/kg	0.0005 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.167 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0005%)

Classification of sample: BH06A[6]

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

Sample details

Sample name:
BH06A[6]
Sample Depth:
16.50 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.64 pH		8.64 pH	8.64 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				<1 mg/kg	1.895	<1.895 mg/kg	<0.000189 %		<LOD
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		86 mg/kg	1.233	106.08 mg/kg	0.0106 %		
6	beryllium { beryllium chloride }			7787-47-5		0.5 mg/kg	8.868	4.434 mg/kg	0.000443 %		
7	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		<1 mg/kg	23.173	<23.173 mg/kg	<0.00232 %		<LOD
8	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		0.6 mg/kg	1.855	1.113 mg/kg	0.000111 %		
9	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	45.308 mg/kg	0.00453 %		
10	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
11	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		15 mg/kg	3.929	58.936 mg/kg	0.00589 %		
12	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10 mg/kg	1.56	15.598 mg/kg	0.001 %		
13	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		625 mg/kg	2.749	1717.852 mg/kg	0.172 %		
14	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.19 mg/kg		0.19 mg/kg	0.000019 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		molybdenum { molybdenum(VI) oxide }				<1	mg/kg	1.5	<1.5	mg/kg	<0.00015 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
16		nickel { nickel diiodide }				31	mg/kg	5.324	165.053	mg/kg	0.0165 %		
		028-029-00-4	236-666-6	13462-90-3									
17		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
18		vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	55.341	mg/kg	0.00553 %		
		023-001-00-8	215-239-8	1314-62-1									
19		zinc { zinc sulphate }				59	mg/kg	2.469	145.688	mg/kg	0.0146 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
20		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
23		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
24		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		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
30		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
31		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
32		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
33		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
34		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
35		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									
36		TPH (C6 to C40) petroleum group				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
				TPH									
37		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
38		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
39		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
40		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
41		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									
43		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-696-0	86-74-8									
44		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
45		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		648-122-00-9	284-895-5	84989-06-0									
46		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		006-003-00-3	200-843-6	75-15-0									
47		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
48		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			202-632-4	98-06-6									
49		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
50		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-227-0	135-98-8									
51		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6									
52		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.235 %		

Key

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

Classification of sample: BH07A[4]

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

Sample details

Sample name:
BH07A[4]

Sample Depth:
1.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.51 pH		8.51 pH	8.51 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				5 mg/kg	1.895	9.473 mg/kg	0.000947 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		110 mg/kg	1.233	135.684 mg/kg	0.0136 %		
6	beryllium { beryllium chloride }			7787-47-5		0.9 mg/kg	8.868	7.981 mg/kg	0.000798 %		
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.2 mg/kg	1.855	2.225 mg/kg	0.000223 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	45.308 mg/kg	0.00453 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		29 mg/kg	3.929	113.943 mg/kg	0.0114 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28 mg/kg	1.56	43.675 mg/kg	0.0028 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		678 mg/kg	2.749	1863.526 mg/kg	0.186 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	0.26 mg/kg		0.26 mg/kg	0.000026 %		
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				29	mg/kg	5.324	154.405	mg/kg	0.0154 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				29	mg/kg	1.785	51.77	mg/kg	0.00518 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				84	mg/kg	2.469	207.421	mg/kg	0.0207 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				0.135	mg/kg		0.135	mg/kg	0.0000135 %		
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.464	mg/kg		0.464	mg/kg	0.0000464 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.667	mg/kg		0.667	mg/kg	0.0000667 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.466	mg/kg		0.466	mg/kg	0.0000466 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				0.254	mg/kg		0.254	mg/kg	0.0000254 %		
			205-883-8	191-24-2									
27		chrysene				0.425	mg/kg		0.425	mg/kg	0.0000425 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.978	mg/kg		0.978	mg/kg	0.0000978 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				0.271	mg/kg		0.271	mg/kg	0.0000271 %		
			205-893-2	193-39-5									
31		phenanthrene				0.587	mg/kg		0.587	mg/kg	0.0000587 %		
			201-581-5	85-01-8									
32		pyrene				0.845	mg/kg		0.845	mg/kg	0.0000845 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				48	mg/kg		48	mg/kg	0.0048 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.268 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0048%)

Classification of sample: BH07A[5]

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

Sample details

Sample name:
BH07A[5]
Sample Depth:
3.00 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.89 pH		7.89 pH	7.89 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				5 mg/kg	1.895	9.473 mg/kg	0.000947 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		61 mg/kg	1.233	75.243 mg/kg	0.00752 %		
6	beryllium { beryllium chloride }			7787-47-5		1.2 mg/kg	8.868	10.642 mg/kg	0.00106 %		
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.2 mg/kg	1.855	2.225 mg/kg	0.000223 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		37 mg/kg	1.462	54.078 mg/kg	0.00541 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		20 mg/kg	3.929	78.581 mg/kg	0.00786 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	26 mg/kg	1.56	40.555 mg/kg	0.0026 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		287 mg/kg	2.749	788.838 mg/kg	0.0789 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2 mg/kg	1.5	3 mg/kg	0.0003 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				32	mg/kg	5.324	170.378	mg/kg	0.017 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				45	mg/kg	1.785	80.333	mg/kg	0.00803 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				92	mg/kg	2.469	227.175	mg/kg	0.0227 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
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		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		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									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.165	mg/kg		0.165	mg/kg	0.0000165 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
32		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				20	mg/kg		20	mg/kg	0.002 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.155 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.002%)

Classification of sample: BH07A[6]

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

Sample details

Sample name:
BH07A[6]

Sample Depth:
6.00 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		7.59 pH		7.59 pH	7.59 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				<1 mg/kg	1.895	<1.895 mg/kg	<0.000189 %		<LOD
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		36 mg/kg	1.233	44.406 mg/kg	0.00444 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.5 mg/kg	1.855	<0.927 mg/kg	<0.0000927 %		<LOD
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		3 mg/kg	1.462	4.385 mg/kg	0.000438 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		5 mg/kg	3.929	19.645 mg/kg	0.00196 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	2 mg/kg	1.56	3.12 mg/kg	0.0002 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		15 mg/kg	2.749	41.228 mg/kg	0.00412 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				2	mg/kg	5.324	10.649	mg/kg	0.00106 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				3	mg/kg	1.785	5.356	mg/kg	0.000536 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				<5	mg/kg	2.469	<12.346	mg/kg	<0.00123 %		<LOD
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
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		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		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									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
32		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				136	mg/kg		136	mg/kg	0.0136 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				0.003	mg/kg		0.003	mg/kg	0.0000003 %		
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.0293 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

carbon disulphide: (conc.: 3.0e-07%)

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0136%)

Classification of sample: BH08A[3]

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

Sample details

Sample name:
BH08A[3]
Sample Depth:
0.20 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.71 pH		8.71 pH	8.71 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				3 mg/kg	1.895	5.684 mg/kg	0.000568 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		70 mg/kg	1.233	86.345 mg/kg	0.00863 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1.1 mg/kg	1.855	2.04 mg/kg	0.000204 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19 mg/kg	1.462	27.77 mg/kg	0.00278 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		24 mg/kg	3.929	94.297 mg/kg	0.00943 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	59 mg/kg	1.56	92.029 mg/kg	0.0059 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		426 mg/kg	2.749	1170.888 mg/kg	0.117 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	2.33 mg/kg		2.33 mg/kg	0.000233 %		
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1 mg/kg	1.5	1.5 mg/kg	0.00015 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				16	mg/kg	5.324	85.189	mg/kg	0.00852 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				14	mg/kg	1.785	24.993	mg/kg	0.0025 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				139	mg/kg	2.469	343.232	mg/kg	0.0343 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.225	mg/kg		0.225	mg/kg	0.0000225 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.338	mg/kg		0.338	mg/kg	0.0000338 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.216	mg/kg		0.216	mg/kg	0.0000216 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-883-8	191-24-2									
27		chrysene				0.222	mg/kg		0.222	mg/kg	0.0000222 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.526	mg/kg		0.526	mg/kg	0.0000526 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				0.137	mg/kg		0.137	mg/kg	0.0000137 %		
			205-893-2	193-39-5									
31		phenanthrene				0.292	mg/kg		0.292	mg/kg	0.0000292 %		
			201-581-5	85-01-8									
32		pyrene				0.434	mg/kg		0.434	mg/kg	0.0000434 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				129	mg/kg		129	mg/kg	0.0129 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
47	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
49	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			205-227-0	135-98-8									
50	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.205 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0129%)

Classification of sample: BH08A[4]

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

Sample details

Sample name:
BH08A[4]

Sample Depth:
2.20 m

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.24 pH		8.24 pH	8.24 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				3 mg/kg	1.895	5.684 mg/kg	0.000568 %		
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		64 mg/kg	1.233	78.944 mg/kg	0.00789 %		
6	beryllium { beryllium chloride }			7787-47-5		0.7 mg/kg	8.868	6.208 mg/kg	0.000621 %		
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		1 mg/kg	1.855	1.855 mg/kg	0.000185 %		
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33 mg/kg	1.462	48.231 mg/kg	0.00482 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		18 mg/kg	3.929	70.723 mg/kg	0.00707 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	18.718 mg/kg	0.0012 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		485 mg/kg	2.749	1333.053 mg/kg	0.133 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				35	mg/kg	5.324	186.351	mg/kg	0.0186 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	55.341	mg/kg	0.00553 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				58	mg/kg	2.469	143.219	mg/kg	0.0143 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
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		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		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									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
32		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				7	mg/kg		7	mg/kg	0.0007 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42		carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47		tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49		sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50		4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.196 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0007%)

Classification of sample: TP04[2]

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

Sample details

Sample name:
TP04[2]
Sample Depth:
0.50 m

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.42 pH		8.42 pH	8.42 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	monohydric phenols			P1186		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
4	arsenic { arsenic acid and its salts with the exception of those specified elsewhere in this Annex }	033-005-00-1				<1 mg/kg	1.895	<1.895 mg/kg	<0.000189 %		<LOD
5	barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		70 mg/kg	1.233	86.345 mg/kg	0.00863 %		
6	beryllium { beryllium chloride }			7787-47-5		<0.5 mg/kg	8.868	<4.434 mg/kg	<0.000443 %		<LOD
7	cadmium { cadmium sulfate }	048-009-00-9	233-331-6	10124-36-4		<0.5 mg/kg	1.855	<0.927 mg/kg	<0.0000927 %		<LOD
8	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26 mg/kg	1.462	38 mg/kg	0.0038 %		
9	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %		<LOD
10	copper { copper sulphate pentahydrate }	029-023-00-4	231-847-6	7758-99-8		19 mg/kg	3.929	74.652 mg/kg	0.00747 %		
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21 mg/kg	1.56	32.756 mg/kg	0.0021 %		
12	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		689 mg/kg	2.749	1893.76 mg/kg	0.189 %		
13	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }	080-002-00-6			1	<0.17 mg/kg		<0.17 mg/kg	<0.000017 %		<LOD
14	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<1 mg/kg	1.5	<1.5 mg/kg	<0.00015 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		nickel { nickel diiodide }				30	mg/kg	5.324	159.729	mg/kg	0.016 %		
		028-029-00-4	236-666-6	13462-90-3									
16		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
17		vanadium { divanadium pentaoxide; vanadium pentoxide }				24	mg/kg	1.785	42.844	mg/kg	0.00428 %		
		023-001-00-8	215-239-8	1314-62-1									
18		zinc { zinc sulphate }				73	mg/kg	2.469	180.259	mg/kg	0.018 %		
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
19		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
21		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
22		benzo[a]anthracene				0.126	mg/kg		0.126	mg/kg	0.0000126 %		
		601-033-00-9	200-280-6	56-55-3									
23		benzo[b]fluoranthene				0.198	mg/kg		0.198	mg/kg	0.0000198 %		
		601-034-00-4	205-911-9	205-99-2									
24		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
25		benzo[a]pyrene; benzo[def]chrysene				0.134	mg/kg		0.134	mg/kg	0.0000134 %		
		601-032-00-3	200-028-5	50-32-8									
26		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
27		chrysene				0.111	mg/kg		0.111	mg/kg	0.0000111 %		
		601-048-00-0	205-923-4	218-01-9									
28		fluoranthene				0.274	mg/kg		0.274	mg/kg	0.0000274 %		
			205-912-4	206-44-0									
29		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
30		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
31		phenanthrene				0.105	mg/kg		0.105	mg/kg	0.0000105 %		
			201-581-5	85-01-8									
32		pyrene				0.243	mg/kg		0.243	mg/kg	0.0000243 %		
			204-927-3	129-00-0									
33		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
34		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									
35		TPH (C6 to C40) petroleum group				19	mg/kg		19	mg/kg	0.0019 %		
				TPH									
36		benzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
37		toluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		ethylbenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
39		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
40		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
41		dibenzofuran				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-071-3	132-64-9									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
42	●	carbazole				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
			201-696-0	86-74-8									
43		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.5	mg/kg		<0.5	mg/kg	<0.00005 %		**<LOD**
		607-317-00-9	204-211-0	117-81-7									
44		Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]			H, J, M	<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		648-122-00-9	284-895-5	84989-06-0									
45		carbon disulphide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		006-003-00-3	200-843-6	75-15-0									
46		mesitylene; 1,3,5-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-025-00-5	203-604-4	108-67-8									
47	●	tert-butylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		**<LOD**
			202-632-4	98-06-6									
48		1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		601-043-00-3	202-436-9	95-63-6									
49	●	sec-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			205-227-0	135-98-8									
50	●	4-isopropyltoluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
			202-796-7	99-87-6									
51		1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		602-034-00-7	202-425-9	95-50-1									
										Total:	0.253 %		

Key

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

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 Solid, not liquid. Not deemed flammable at concentrations observed. Inert soil thrshold adopted.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0019%)

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

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

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

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

barium sulphide (EC Number: 244-214-4, CAS Number: 21109-95-5)

GB MCL index number: 016-002-00-X
Description/Comments:
Additional Hazard Statement(s): EUH031 >= 0.8 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

beryllium chloride (CAS Number: 7787-47-5)

Description/Comments: Data from C&L Inventory Database; No entries in Registered Substances Database, IARC or Pesticide Properties Database
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=27264&HarmOnly=no?fc=true&lang=en
Data source date: 02 Jun 2014
Hazard Statements: Acute Tox. 3; H301 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Carc. 1B; H350 , STOT RE 1; H372 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

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

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

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

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

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

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

- **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

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

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

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

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

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

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

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

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

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

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

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

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

- **dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

- **carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

tert-butylbenzene (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

sec-butylbenzene (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

4-isopropyltoluene (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

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}

Worst case

arsenic {arsenic acid and its salts with the exception of those specified elsewhere in this Annex}

worst case species

barium {barium sulphide}

No Cr VI present to form compounds

beryllium {beryllium chloride}

worst case species

cadmium {cadmium sulfate}

Wost case most likley

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

worst case species

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

worst case species

copper {copper sulphate pentahydrate}

worst case species

lead {lead chromate}

worst case species

manganese {manganese sulphate}

Worst case

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

Most likely

molybdenum {molybdenum(VI) oxide}

worst case species

nickel {nickel diiodide}

worst case species

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

worst case species

vanadium {divanadium pentaoxide; vanadium pentoxide}

worst case species

zinc {zinc sulphate}

No Cr VI present to form compounds

boron {boron tribromide}

worst case species

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2022.25.4995.9469 (25 Jan 2022)
HazWasteOnline Database: 2022.25.4995.9469 (25 Jan 2022)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021

APPENDIX 5

DESIGN CONSIDERATIONS

APPENDIX 5

GEOTECHNICAL DESIGN CONSIDERATIONS

A5.1 ASSESSMENT OF GRANULAR SOIL CONDITION

A5.1.1 SPT 'N' values reported on the borehole logs are as measured and uncorrected.

A5.1.2 However for general design in sands the 'N' values should be normalised to 60% by the following equation:-

A5.1.3 N60 = Er/60.N where:-

N is the blow count and

Er is the energy ratio of the specific test equipment

A5.1.4 Further corrections for rod length and overburden pressure in sands may be applied in accordance with BS EN ISO 22476-3, ref 9.7.

A5.2 ASSESSMENT OF COHESIVE SOIL CONDITION

A5.2.1 In accordance with BS EN ISO 22475-1, ref. 9.9, and BS5930, ref. 9.5, the thick walled U100 sample is considered as a Class B sampling technique and will only produce Class 3 to 5 quality samples in accordance with EN 1997-2:2007, ref. 9.6.

A5.2.2 Laboratory strength and consolidation testing can only be carried out on Class 1 quality samples, which can be obtained from a Class A sampling technique. This is due to possible disturbance during sampling, giving a weaker strength in testing.

A5.2.3 Therefore values for c_u and m_v derived for use in this report can only be used as guidance and not used to determine the shear strength properties of the clay and is not used to give a descriptive strength in the borehole records.

A5.2.4 Work undertaken by Stroud, ref. 9.23, determined a relationship between SPT 'N' values and the undrained shear strengths of many over-consolidated clays. Further work by Stroud and Butler, ref. 9.24, in which data was analysed from sites covering a wide range of glacial deposits, confirmed there to be a correlation between the 'N' value and undrained shear strength.

A5.2.5 The relationship was of the form:

$c_u = f_1 \times N$

and $m_v = 1/(f_2 x N)$

Where c_u = Un-drained shear strength

m_v = Coefficient of compressibility

f_1 and f_2 = Factors

A5.2.6 It was determined by Stroud that f_1 varied between 4kPa for material of high plasticity and 6kPa for material of low plasticity. Similarly f_2 varied between 400kPa and 600kPa.

A5.3 FIRST APPROXIMATION OF PILE WORKING LOAD

A5.3.1 PILING PARAMETERS – GENERAL

The ultimate carrying capacity, Qu, of a particular pile is taken as the sum of the ultimate shaft friction resistance, Qs, and the ultimate end bearing resistance, Qb. This may be expressed as follows:-

$$Qu = Qs + Qb$$

$$= f.As + q.Ab$$

where f = unit shaft resistance

As = embedded surface area of pile

q = unit end bearing resistance

Ab = effective cross-sectional area of pile base

A5.3.2 COHESIVE SOILS

A5.3.2.1 Shaft Resistance

The ultimate shaft resistance, f, for piles in both compression or tension in cohesive soils is determined by applying a factor to the undrained shear strength, Cs, which exists in the soils along the embedded length of the pile, and is given by:-

$$f = \alpha.Cs$$

Where α is an adhesion factor, which for straight-shafted bored piles may be taken as 0.45 to 0.60.

Ultimate unit shaft friction should not exceed 100kPa.

A5.3.2.2 End Bearing

For piles terminating in cohesive soils, the ultimate unit end bearing resistance q, is given by:-

$$q = Nc.Cb$$

where Cb is the undrained shear strength at the base of the pile

and Nc is a bearing capacity factor

The value of Nc for a cohesive material is variable, depending on the depth of the penetration of the pile into the bearing stratum. Generally, Nc could be taken to have a value of 9, except in the case of large diameter short piles where a lesser value should be used.

A5.3.3 COHESIONLESS SOILS

A5.3.3.1 Shaft Resistance

For piles driven in cohesionless soils the ultimate unit shaft resistance, f, may be calculated using the following method, which gives:-

$$f = 0.5\gamma' (D+d) Ks \tan \delta$$

where γ' = average effective unit weight of soil surrounding the pile

D = depth to the pile toe or to the base of the granular stratum whichever is the lesser

d = depth to the top of the granular stratum

δ = angle of friction between pile and soil (see below)

Ks = a coefficient (see below)

VALUES OF Ks AND δ

Pile Type	δ	Ks		
		Relative Density		Tension Piles
		Low	High	
Steel	20°	0.5	1.5	0.5
Concrete	0.75ϕ	1.0	2.0	0.5

The value of ϕ may be interpreted from standard penetration tests.

For bored and cast-in-place piles, $\delta = 22°$ and Ks = 1 should be used to allow for loosening of the soil during boring.

It has been found that the ultimate unit shaft resistance does not exceed 100kPa and therefore this value should not be exceeded in design.

A5.3.3.2 End Bearing

The unit ultimate end bearing resistance (q) of piles in cohesionless soils may be calculated as follows:-

$q = \gamma'.D.Nq$

where γ' = average effective unit weight of soil surrounding the pile

D = depth to pile toe

Nq = bearing capacity factor

Values for Nq, where piles penetrate the bearing stratum by more than five diameters may be taken from work carried out by Berezantsev, ref.9.37. In addition, the ultimate unit base resistance should not exceed a value of 11,000kPa. For bored and cast-in-place piles the value of Nq used should correspond to loose soil conditions.

A5.3.4 CHALK

A5.3.4.1 General

The subject of piling in chalk has been the subject of an extensive review published by CIRIA, ref. 9.20. The design methods given below have been based on this information and it is recommended that they are used in an assessment of pile carrying capacities.

A5.3.4.2 Bored Cast-in-Place Piles

Shaft Resistance

The indications are that the shaft resistance of bored piles should not be related solely to the SPT 'N' values.

It is recommended the unit ultimate shaft resistance of bored piles in low and medium density chalk should be based on the empirical relationship

$$f = 0.8 \times p'$$

where p' = average effective overburden pressure over pile length in chalk

When calculating p', the contribution of Made Ground should be ignored.

Similarly, if a site is to be excavated, p' should be based on the final ground level.

For cfa piles, the unit ultimate shaft resistance should be taken as follows:

$$f = 0.45 \times p'$$

In addition to the provisos used for bored piles, present case histories for cfa piles have been investigated for a p' up to 200kPa and f of 110kPa. Therefore, the carrying capacity of piles beyond this range should be treated with caution.

End Bearing

The unit ultimate end bearing resistance, q, may be determined from the 'N' values taken within a depth of two diameters of the toe of the pile, as follows:-

bored piles $q = 200.N$ kPa

cfa piles $q = 200.N$ kPa

A5.3.4.3 Driven Cast-in Place Piles

Shaft Resistance

Should be designed on the same basis of bored piles, adopting

$$f = 0.8 \times p'$$

This procedure should not be adopted for small displacement piles, such as open tubes or H-sections, but is applicable to large displacement piles.

End Bearing

The unit ultimate end bearing resistance q, may be determined from the 'N' values taken within a depth of two diameters of the toe of the pile as follows:

$$q = 250.N \text{ kPa}$$

A5.3.5 FACTORS OF SAFETY

A5.3.5.1 Cohesive and Non-cohesive Soils

For cohesive and non-cohesive soils a factor of safety of 3 may be used to obtain the allowable or safe carrying capacity of piles from the ultimate carrying capacity.

A5.3.5.2 Chalk

In chalk, a factor of safety of 2.5 may be used to obtain the allowable or safe carrying capacity of piles from the ultimate carrying capacity.

APPENDIX 6

GEOENVIRONMENTAL ASSESSMENT

APPENDIX 6

GENERAL NOTES ON GEOENVIRONMENTAL ASSESSMENT

A6.1 STATUTORY FRAMEWORK AND DEFINITIONS

A6.1.1 The statutory definition of contaminated land is defined in the Environmental Protection Act 1990, ref. 9.38, which was introduced by the Environment Act 1995, ref. 9.39;

'Land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that –

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or

(b) pollution of controlled waters is being, or is likely to be, caused.'

A6.1.2 The UK guidance on the assessment of contaminated has developed as a direct result of the introduction of these two Acts. The technical guidance supporting the new legislation has been summarised in a number of key documents collectively known as the Contaminated Land Reports (CLRs), a proposed series of twelve documents. Seven were originally published in March 1994, four more were published in April 2002, while the last remaining guidance document, CLR 11, was published in 2004. In 2008 CLR reports 7 to 10 were withdrawn by DEFRA and the Environment Agency and updated version of CLR 9 and 10 were produced in the form of Science Reports SR2, ref. 9.40 and SR3, ref. 9.41. CLR 11 was subsequently withdrawn and replaced by Environment Agency guidance Land Contamination Risk Management (LCRM), ref. 9.54, in 2020.

A6.1.3 In establishing whether a site fulfils the statutory definition of 'contaminated land' it is necessary to identify, whether a pollutant linkage exists in respect of the land in question and whether the pollutant linkage:

- is resulting in significant harm being caused to the receptor in the pollutant linkage,
- presents a significant possibility of significant harm being caused to that receptor,
- is resulting in the pollution of the controlled waters which constitute the receptor, or
- is likely to result in such pollution.

A6.1.4 A *'pollutant linkage'* may be defined as the link between a contaminant *'source'* and a *'receptor'* by means of a *'pathway'*.

A6.2 ASSESSMENT METHODOLOGY

A6.2.1 The guidance proposes a four-stage assessment process for identifying potential pollutant linkages on a site. These stages are set out in the table below:

No.	Process	Description
1	Hazard Identification	Establishing contaminant sources, pathways and receptors (the conceptual model).
2	Hazard Assessment	Analysing the potential for unacceptable risks (what linkages could be present, what could be the effects).
3	Risk Estimation	Trying to establish the magnitude and probability of the possible consequences (what degree of harm might result and to what receptors, and how likely is it).
4	Risk Evaluation	Deciding whether the risk is unacceptable.

A6.2.2 Stages 1 and 2 develop a *'conceptual model'* based upon information collated from desk based studies, and frequently a walkover of the site. The walkover survey should be conducted in general accordance with CLR 2, ref. 9.55. The formation of a conceptual model is an iterative process and as such, it should be updated and refined throughout each stage of the project to reflect any additional information obtained.

A6.2.3 The extent of the desk studies and enquiries to be conducted should be in general accordance with CLR 3, ref. 9.56. The information from these enquiries is presented in a desk study report with recommendations, if necessary, for further work based upon the conceptual model. Specific DoE 'Industry Profiles' provide guidance on the nature of contaminants relating to specific industrial processes.

A6.2.4 If potential pollutant linkages are identified within the conceptual model, a Phase 2 site investigation and report will be recommended. The investigation should be planned in general accordance with CLR 4, ref. 9.3. The number of exploratory holes and samples collected for analysis should be consistent with the size of the site and the level of risk envisaged. This will enable a contamination risk assessment to be conducted, at which point the conceptual model can be updated and relevant pollutant linkages can be identified.

A6.2.5 A two-stage investigation may be more appropriate where time constraints are less of an issue. The first stage investigation being conducted as an initial assessment for the presence of potential sources, a second being a more refined investigation to delineate wherever possible the extent of the identified contamination.

A6.2.6 All site works should be in general accordance with the British Standards, BS 5930:2015, ref. 9.5, ISO 1997, ref. 9.6 and BS 10175:2011, ref. 9.4.

A6.2.7 The generic contamination risk assessment screens the results of the chemical analysis against generic guidance values which are dependent on the proposed end-use of the development.

A6.2.8 The end-use may be defined as one of the following ref. 9.46;

- Residential with homegrown produce – domestic low rise and low density housing with gardens where vegetable may be grown for home consumption
- Residential without homegrown produce – domestic low density and low density housing where no gardens are present.
- Allotments – specific areas where vegetables are grown for home consumption.
- Public open space in close proximity to residential housing – includes the predominantly grassed area adjacent to high density housing and the central green area around which houses are developed. This land-use includes the smaller areas commonly incorporated in newer developments as informal grassed areas or more formal landscaped areas with a mixture of open space and covered soil with planting.
- Public open space in use as general parkland – provided for recreational use and may be used for family visits and picnics, children's play area, sports grounds and dig walking.
- Commercial – industrial premises where there is limited exposure to soil.

A6.2.9 Exposure pathways for each type of end-use are given below:

Standard Land Use	Oral Routes			Dermal Routes		Inhalation Routes			
	Direct soil & dust ingestion	Consumption of homegrown produce	Soil attached to homegrown produce	Indoor	Outdoor	Indoor dust	Outdoor dust	Indoor vapour	Outdoor vapour
Residential with homegrown produce	✓	✓	✓	✓	✓	✓	✓	✓	✓
Residential without homegrown produce	✓	X	X	✓	✓	✓	✓	✓	✓
Allotments	✓	✓	✓	X	✓	X	✓	✓	✓
Public open space – adjacent to dwellings	✓	X	X	✓	✓	✓	✓	X	✓
Public open space – parkland	✓	X	X	X	✓	X	✓	X	✓
Commercial	✓	X	X	✓	X	✓	X	✓	X

A6.2.1 In the first instance, soils will be compared to Suitable 4 Use Levels (S4ULs) published by LQM ref. 9.43. Screening levels for lead are taken from guidance published by DEFRA as no S4UL has been derived, ref. 9.46.

A6.2.2 The decision to use S4ULs is based on the fact that C4SLs are primarily intended for use under Part 2A of the Environmental Protection Act 1990 in determining when land is not contaminated land as defined under the Act. By its definition, this implies a lower standard of protection than the previous SGVs due to their use of a "Low Level of Toxicological Concern", as opposed to the minimal or tolerable level of risk. As such, it was considered that, excepting lead, S4ULs are suitable in evaluating this site.

A6.2.3 Where no S4UL or C4SL is available, the assessment criteria (AC) may be generated using the Contaminated Land Exposure Assessment (CLEA) Software Version 1.07, ref. 9.44. Toxicological and physico-chemical/fate and transport data used to generate the AC has been derived from a hierarchy of data sources as follows:

1. Environment Agency or Department of Environment Food and Rural Affairs

   (DEFRA) documents;

2. Other documents produced by UK Government or state organisations;

3. European institution documents;

4. International organisation documents;

5. Foreign government institutions.

A6.2.4 In the case of the majority of contaminants considered, the toxicological data has been drawn from the relevant CLR 9 TOX report, or updated toxicological data published by the Environment Agency (2009), ref. 9.42, where available. Where no TOX report is available reference has been made to the health criteria values, derived for use in Land Quality Press (2006), ref. 9.47, as this is considered to represent a peer reviewed data source. Similarly, fate and transport data has been derived in the first instance from Environment Agency (2003), ref. 9.57 and for contaminants not considered in this document the fate and transport data used in previous versions of the CLEA model has been used.

A6.2.5 Chemical laboratory test results are processed as follows. A statistical analysis of the results is conducted, as detailed in CIEH and CL:AIRE 'Guidance on Comparing Soil Contamination Data with a Critical Concentration', ref. 9.45. Individual concentrations are compared to the selected guideline values to identify concentrations of contaminants that are above the selected screening criteria.

A6.2.6 Where the risk estimation identifies significant concentrations of one or more contaminants, a further risk evaluation needs to be undertaken.

A6.3 RISK EVALUATION

A6.3.1 The risk evaluation is a qualitative method for interpreting the data from the hazard estimation stage. It involves the classification of the:

- magnitude of the potential 'consequence' (severity) of the risk occurring and:

- magnitude of the 'probability' (likelihood) of the risk occurring.

A6.3.2 These are defined in the following sections:

A6.4 CLASSIFICATION OF CONSEQUENCE

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High Concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse can also equate to a short-term human health risk if buildings are occupied.
Medium	Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem, (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in the *Draft Circular on Contaminated Land*, DETR 2000). Damage to sensitive buildings/ structures/services or the environment.	Pollution of non-classified ground water. Damage to building rendering it unsafe to occupy (eg foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in landscaping scheme. Discoloration of concrete

A6.4.1 In theory, both severe and medium classification can result in death. The differential is that severe relates to short term risk while medium relates to long-term risk. Therefore, the classification of severe requires urgent action while medium may require urgent action but usually long term action would be sufficient.

A6.5 CLASSIFICATION OF PROBABILITY

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term

A6.6 COMPARISON OF CONSEQUENCE AGAINST PROBABILITY

A6.6.1 These classifications are compared to indicate the risk presented by each pollutant linkage. Once the consequence and probability have been classified they can be used to produce a risk category as below:

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	High likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

A6.6.2 The action required for the classified risks are as follows:

Very high risk	There is a high probability that severe harm could pose a risk to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required
High risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

A6.6.3 The risk evaluation will address the potential pollutant linkages between an identified source of contamination and the likely receptors both on and off site.

A6.6.4 The potential receptors include:

1) Humans – current site occupants, construction workers, future site users and neighbouring site users.

2) Controlled Waters – surface water and groundwater resources

3) Plants – current and future site vegetation

4) Building materials

A6.6.5 The potential hazards to be considered in relation to contamination are:

a) Ingestion and inhalation.

b) Uptake of contaminants via cultivated vegetables.

c) Dermal contact

d) Phytotoxicity (the prevention or inhibition of plant growth)

e) Contamination of water resources

f) Chemical attack on building materials and services

g) Fire and explosion

A6.6.6 Dependent on the outcome of the initial, generic contamination risk assessment, further detailed assessment of the identified risks may be required.

A6.7 Generic Guidance Values Used Within Contamination Risk Assessment

Commercial End Use

Commercial	Determinant	Guidance Value (mg/kg) 1% SOM	Guidance Value (mg/kg) 2.5% SOM	Guidance Value (mg/kg) 6% SOM	Primary Data Source
PAH	Acenaphthene	85000	97000	100000	LQM/CIEH S4UL
	Acenaphthylene	84000	97000	100000	LQM/CIEH S4UL
	Anthracene	520000	540000	540000	LQM/CIEH S4UL
	Benzo(a)anthracene	170	170	180	LQM/CIEH S4UL
	Benzo(a)pyrene	35	35	36	LQM/CIEH S4UL
	Benzo(b)fluoranthene	44	44	45	LQM/CIEH S4UL
	Benzo(ghi)perylene	3900	4000	400	LQM/CIEH S4UL
	Benzo(k)fluoranthene	1200	1200	1200	LQM/CIEH S4UL
	Chrysene	350	350	350	LQM/CIEH S4UL
	Dibenzo(ah)anthracene	3.5	3.6	3.6	LQM/CIEH S4UL
	Fluoranthene	23000	23000	23000	LQM/CIEH S4UL
	Fluorene	63000	68000	71000	LQM/CIEH S4UL
	Indeno(123-cd)pyrene	500	510	510	LQM/CIEH S4UL
	Naphthalene	190	460	1100	LQM/CIEH S4UL
	Phenanthrene	22000	22000	2300	LQM/CIEH S4UL
	Pyrene	54000	54000	54000	LQM/CIEH S4UL
Other Organics	Phenol	760	1500	3200	LQM/CIEH S4UL
Metals	Arsenic	640	640	640	LQM/CIEH S4UL
	Beryllium	12	12	12	LQM/CIEH S4UL
	Boron	240000	240000	240000	LQM/CIEH S4UL
	Cadmium	190	190	190	LQM/CIEH S4UL
	Chromium (III)	8600	8600	8600	LQM/CIEH S4UL
	Chromium (VI)	49	49	49	LQM/CIEH S4UL
	Copper	68000	68000	68000	LQM/CIEH S4UL
	Lead	2330	2330	2330	EA C4SL
	Mercury	58	58	58	LQM/CIEH S4UL
	Nickel	980	980	980	LQM/CIEH S4UL
	Selenium	12000	12000	12000	LQM/CIEH S4UL
	Vanadium	9000	9000	9000	LQM/CIEH S4UL
	Zinc	730000	730000	730000	LQM/CIEH S4UL

Commercial	Guidance Value (mg/kg)	Guidance Value (mg/kg)	Guidance Value (mg/kg)	Primary Data Source
	1% SOM	2.5% SOM	6% SOM	
Aliphatic				
EC 5-6	3200 (304)	5900 (558)	12000 (1150)	LQM/CIEH S4UL
EC >6-8	7800 (144)	17000 (322)	40000 (736)	LQM/CIEH S4UL
EC >8-10	2000 (78)	4800 (190)	11000 (451)	LQM/CIEH S4UL
EC >10-12	9700 (48)	23000 (118)	47000 (283)	LQM/CIEH S4UL
EC >12-16	59000 (24)	82000 (59)	90000 (142)	LQM/CIEH S4UL
EC >16-35	1600000	1700000	1800000	LQM/CIEH S4UL
EC >35-44	1600000	1700000	1800000	LQM/CIEH S4UL
Aromatic				
EC 5-7 (benzene)	26000 (1220)	46000 (2260)	86000 (4710)	LQM/CIEH S4UL
EC >7-8 (toluene)	56000 (869)	110000 (1920)	180000 (4360)	LQM/CIEH S4UL
EC >8-10	3500 (613)	8100 (1500)	17000 (3580)	LQM/CIEH S4UL
EC >10-12	16000 (364)	28000 (899)	34000 (2150)	LQM/CIEH S4UL
EC >12-16	36000 (169)	37000	38000	LQM/CIEH S4UL
EC >16-21	28000	28000	28000	LQM/CIEH S4UL
EC >21-35	28000	8000	28000	LQM/CIEH S4UL
EC >35-44	28000	28000	28000	LQM/CIEH S4UL
Aliphatic and Aromatic				
EC >44-70	28000	28000	28000	LQM/CIEH S4UL
BTEX				
Benzene	27	47	90	LQM/CIEH S4UL
Toluene	56000	110000	180000	LQM/CIEH S4UL
Ethylbenzene	5700	13000	27000	LQM/CIEH S4UL
m/p Xylenes	5900	14000	30000	LQM/CIEH S4UL
o Xylene	17000	24000	33000	LQM/CIEH S4UL

SOM = Soil Organic Matter

Values in brackets indicate the vapour saturation limit where this is exceeded by the GAC or SG

A6.8 Guidance Values Used for the Assessment of Risk to Controlled Waters

Contaminant	UK Drinking Water Standard[1] or best equivalent (ug/l)	EQS Estuaries[2] or best equivalent (ug/l)
Metals		
Arsenic	10	25[3]
Cadmium	5	0.2[3]
Chromium (Total)	50	-
Chromium III	Use value for total chromium	-
Chromium VI		0.6[3]
Copper	2000	3.76 dissolved, where DOC ≤1mg/l, 3.76µg/l + (2.677µg/l x ((DOC/2) – 0.5µg/l)) dissolved, where DOC >1mg/l[3]
Lead	10	1.3[3]
Manganese	50	-
Mercury	1	0.07[5]
Nickel	20	8.6[3]
Selenium	10	-
Zinc	3000	6.8 dissolved[3]
Other Inorganics		
Cyanide	50	1[3]
Sulphate	250000	-
Polycyclic Aromatic Hydrocarbons (PAH)		
Acenaphthylene	-	5.8[6]
Anthracene	-	0.1[3]
Naphthalene	-	2[3]
Fluoranthene	-	0.0063[3]
Benzo(a)pyrene	0.01	0.00017[3]
Benzo(b)fluoranthene	0.1 (sum of values for all four compounds)	No EQS – B(a)P should be used as the indicator compound
Benzo(k)fluoranthene		
Benzo(ghi)perylene		
Indeno(123-cd)perylene		
Petroleum Hydrocarbons		
Benzene	1	8[3]
Toluene	700[7]	74[3]
Ethylbenzene	300[7]	-
Xylenes	500[7]	-
Methyl tertiary butyl ether (MTBE)	15[9]	-
Other Organics		
Phenol	-	7.7[3]

[1] The Water Supply (Water Quality) Regulations 2016 (SI 2016/619)
[2] The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015
[3] Based on AA – Average Annualised
[4] Dependant on water hardness
[5] Based on MAC – Maximum Acceptable Concentration
[6] WRc plc (2002), R&D Technical Report P45
[7] WHO (2011), Guidelines for Drinking Water Quality, 4th edition
[8] CL:AIRE (2017), Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies, V1.1
[9] Drinking Water Inspectorate (London, UK), Environmental Information Request on MTBE in drinking water (DWI 1/10/18) 2006

Petroleum Hydrocarbons	WHO[1] (ug/l)
- Aliphatic EC5-EC6	15000
- Aliphatic >EC6-EC8	15000
- Aliphatic >EC8-EC10	300
- Aliphatic >EC10-EC12	300
- Aliphatic >EC12-EC16	300
- Aliphatic >EC16-EC21	-
- Aliphatic >EC21-EC35	-
- Aromatic EC5-EC6	10 (benzene)
- Aromatic >EC6-EC8	700 (toluene)
- Aromatic >EC8-EC10	300 (ethylbenzene) 500 (xylenes)
- Aromatic >EC10-EC12	90
- Aromatic >EC12-EC16	90
- Aromatic >EC16-EC21	90
- Aromatic >EC21-EC35	90

[1] WHO (2008), Petroleum Products in Drinking Water, Background document for development of WHO guidelines for drinking water quality (WHO/SDE/WSH/05.08/123), as referenced in CL:AIRE (2017)

APPENDIX 7

GAS GENERATION

APPENDIX 7

GENERAL NOTES ON GAS GENERATION

A7.1 GENERAL

A7.1.1 In the past, a series of guidance documents were published by CIRIA, ref. 9.63, providing advice on hazards associated with methane. This earlier guidance was consolidated in CIRIA Document C659 to provide a risk based approach to gas contaminated land. This was subsequently re-issued as CIRIA Document C665, ref 9.64. In 2007, British Standard, BS8485, ref 9.65, dealing with ground gas was published. It is recommended that guidance in C665 and BS8485 is adopted to provide a consistent approach in dealing with ground gas contamination, the principal details being as follows.

A7.1.2 This guidance is based on a similar approach to that for dealing with contaminated soil. The presence of hazardous gases could be deemed to be the 'source' in a 'pollutant linkage' that could lead to the conclusion that significant harm is or could be caused to people, buildings or the environment. In such circumstances the land could be deemed 'contaminated', ref. 9.38.

A7.1.3 Should a potential source of gas be identified in the conceptual model, a gas risk assessment should be carried out, sufficient to demonstrate to the local authority that the proposals mitigate any hazards associated with ground gas. The authority enforces compliance with Approved Document Part C of the Building Regulations, ref. 9.66.

A7.2 APPROACH

A7.2.1 A flow chart detailing the approach to assessing a site is given in CIRIA document C665, Figure 1.1. This may be summarised as follows.

- Carry out Phase 1 desk study, including initial conceptual model
- Assess site, potential presence of gas / potential unacceptable risk / identify further action, if necessary
- Monitor gas concentrations
- Assessment of Risk
- Recommendations / remediation
- Validation

A7.3 POLLUTANT LINKAGE ASSESSMENT

A7.3.1 A pollutant linkage assessment is presented in Appendix 3 of the Phase 1 Desk Study Report.

A7.3.2 Using the risk model in the desk study, the pollutant linkage can be identified and a preliminary estimate of risk undertaken. If there is no relevant pollutant linkage identified there is likely to be negligible risk. If there is a very low risk, it is likely that no further assessment is required. If further assessment is necessary, then gas monitoring is required.

A7.4 SITE MONITORING

A7.4.1 For sites with low generation potential, giving consistently low concentrations of soil gas under the worst-case conditions, a limited programme of monitoring would be appropriate. Where high or variable concentrations are anticipated or recorded, an extended programme of monitoring would be appropriate. The following guidance has been proposed, ref. 9.68.

Table A10.1

		Generation potential of source				
Sensitivity of development		**Very low**	**Low**	**Moderate**	**High**	**Very high**
	Low (Commercial)	4/1	6/2	6/3	12/6	12/12
	Moderate (Flats)	6/2	6/3	9/6	12/12	24/24
	High (Residential with gardens)	6/3*	9/6	12/6	24/12	24/24

Notes

1. First number is minimum number of readings and second number is minimum period in months, for example 4/1 – Four sets of readings over 1 month.

2. At least two sets of readings must be at low and falling atmospheric pressure (but not restricted to periods below <1000mb) known as worst case conditions (see NHBC, ref 9.70).

3. The frequency and period stated are considered to represent typical minimum requirements. Depending on specific circumstances fewer or additional readings may be required (e.g. any such variation subject to site specific justification). The NHBC guidance is also recommending these periods/frequency of monitoring.

4. Historical data can be used as part of the data set.

5. Not all sites will require gas monitoring however, this would need to be confirmed with demonstrable evidence.

6. Placing high sensitivity end use on a high hazard site is not normally acceptable unless the source is removed or treated to reduce its gassing potential. Under such circumstances long-term monitoring may not be appropriate or required.

A7.4.2 Before taking any readings, zero the instrument, record atmospheric pressure and temperature.

A7.4.3 Gas flow should be recorded, giving the range of pressures, ensuring positive or negative flow is recorded.

A7.4.4 Record gas levels, recording peak and steady. Where steady state not obtained within 3 minutes, record change in concentration, where concentrations are decreasing, always record peak value. For very high concentrations, record for longer period of up to 10 minutes.

A7.5 ASSESSMENT OF RISK AND RECOMMENDATIONS

A7.5.1 The main method of characterising a site is the method described by Wilson and Card, ref. 9.69 and is termed Situation A. This can be used for all types of development except conventional low-rise housing with suspended ground floor and ventilated underfloor void.

A7.5.2 Low rise housing, Situation B, was developed by Boyle and Witherington for the NHBC, ref. 9.70, for classifying gassing sites for houses with suspended ground floor slab with ventilated void.

A7.5.3 Although the Code of Practice, ref 9.65, assesses the characteristic gas situation as CIRIA recommend for Situation A, see Table A7.2 below, their solution for gas protection systems is different, see section A7.10.

A7.6 SITUATION A - ASSESSMENT

A7.6.1 This system proposed by Wilson and Card was originally developed in CIRIA Report 149, ref. 9.63.

A7.6.2 The method uses both gas concentrations and borehole flow rate for methane and carbon dioxide to define a Characteristic Situation for a site.

A7.6.3 Gas Screening Value (litre/hr) = borehole flow rate (litre/hr) x gas concentration (%). The GSV is determined for methane and carbon dioxide and the worst case adopted. The Characteristic Situation can then be determined from the table below. The GSV can be exceeded if the conceptual model indicates it is safe to do so, and other factors may lead to a change in the Characteristic Situation.

Table A10.2

Characteristic Situation	Risk Classification	Gas screening value (CH_4 or CO_2(1/hr)[1]	Additional factors	Typical source of generation
1	Very low risk	<0.07	Typically methane ≤1% and/or carbon dioxide ≤5%. Otherwise consider increase to Situation 2	Natural soils with low organic content "Typical" Made Ground
2	Low risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to Characteristic Situation 3	Natural soil, high peat/organic content. "Typical" Made Ground
3	Moderate risk	<3.5		Old landfill, inert waste, mineworking flooded
4	Moderate to high risk	<15	Quantitative risk assessment required to evaluate scope of protective measures	Mineworking – susceptible to flooding, completed landfill (WMP 26B criteria)
5	High risk	<70		Mineworking unflooded inactive with shallow workings near surface
6	Very high risk	>70		Recent landfill site

1. Site characterisation should be based on gas monitoring of concentrations and borehole flow rates for the minimum periods defined in Table A7.1
2. Source of gas and generation potential/performance must be identified.
3. If there is no detectable flow use the limit of detection of the instrument.

A7.7 SITUATION A – SOLUTION

A7.7.1 The Characteristic Situation can be used to define the scope of gas protective measures required.

A7.7.2 The CIRIA approach uses the characteristic situation to define the level of gas protection as follows:

Table A10.3

Characteristic situation	Residential building (Not low-rise traditional housing)		Office/commercial/industrial development	
	Number of levels of protection	Typical scope of protective measures	Number of levels of protection	Typical scope of protective measures
1	None	No special precautions	None	No special precautions
2	2	a) Reinforced concrete cast in situ floor slab (suspended non-suspended or raft) with at least 1200g DPM and underfloor venting b) Beam and block or pre-cast concrete and 2000g DPM / reinforced gas membrane and underfloor venting All joints and penetrations sealed	1 to 2	a) Reinforced concrete cast in-situ floor slab (suspended non-suspended or raft) with at least 1200g DPM b) Beam and block or pre cast concrete slab and minimum 2000g DPM/reinforced gas membrane c) Possibly underfloor venting or pressurisation in combination with a) and b) depending on use All joints and penetrations sealed
3	2	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space	1 to 2	All types of floor slab as above. All joints and penetrations sealed. Minimum 2000g/reinforced gas proof membrane and passively ventilated underfloor sub-space or positively pressurised underfloor sub-space
4	3	All types of floor slab as above.	2 to 3	All types of floor slab as above.

Characteristic situation	Residential building (Not low-rise traditional housing)		Office/commercial/industrial development	
		All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated underfloor subspace or positively pressurised underfloor sub-space, oversite capping or blinding and in ground venting layer		All joints and penetration sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space with monitoring facility
5	4	Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and ventilated or positively pressurised underfloor sub-space, oversite capping and in ground venting wells or barriers	3 to 4	Reinforced concrete cast in-situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space with monitoring facility. In ground venting wells or barriers
6	5	Not suitable unless gas regime is reduced first and quantitative risk assessment carried out to assess design of protection measures in conjunction with foundation design	4 to 5	Reinforced concrete cast in-situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and actively ventilated or positively pressurised underfloor sub-space with monitoring facility, with monitoring. In ground venting wells and reduction of gas regime.

1. Typical scope of protective measures may be rationalised for specific developments on the basis of quantitative risk assessments.

2. Note the type of protection is given for illustration purposes only. Information on the detailing and construction of passive protection measures is given in BR414, ref. 9.67.

3. In all cases there should be minimum penetration of ground slabs by services and minimum number of confined spaces such as cupboards above the ground slab. Any confined spaces should be ventilated.

4. Foundation design must minimise differential settlement particularly between structural elements and ground-bearing slabs.

5. Commercial buildings with basement car parks, provided with ventilation in accordance with the Building Regulations, may not require gas protection for characteristic situations 3 and 4.

6. Floor slabs should provide an acceptable formation on which to lay the gas membrane. If a block and beam floor is used it should be well detailed so it has no voids in it that membranes have to span, and all holes for service penetrations should be filled. The minimum density of the blocks should be 600kg/m^3 and the top surface should have a 4:1 sand cement grout brushed into all joints before placing any membrane (this is also good practice to stabilise the floor and should be carried out regardless of the need for gas membrane).

7. The gas-resistant membrane can also act as the damp-proof membrane.

A7.8 SITUATION B -ASSESSMENT

A7.8.1 The NHBC has developed a characterisation system that is similar to Situation A but is specific to low-rise housing development with a clear ventilated underfloor void. The gas emission rates are compared to generic 'Traffic Lights'.

A7.8.2 The Traffic Lights include a Typical Maximum Concentration that is used for initial screening purposes. Where the Typical Maximum Concentration is exceeded the risk-based Gas Screening Value, GSV, should be adopted. The GSVs are determined for the 'model' low rise development and where they differ from this model, the GSV should be reassessed, ref. 9.64.

A7.8.3 The calculations should be made for both methane and carbon dioxide, and the worst case adopted. The GSV is only a guideline.

Table A10.4

Traffic light	Methane		Carbon dioxide	
	Typical maximum concentration[2] (% v/v)	**Gas screening value (GSV)[3] (litres per hour)**	**Typical maximum concentration[2] (% v/v)**	**Gas screening value (GSV)[1,2] (litres per hour)**
Green				
	1	**0.16**	5	**0.78**
Amber 1				
	5	**0.63**	10	**1.56**
Amber 2				
	20	**1.56**	30	**3.13**
Red				

1. Generic GSVs are based on guidance contained within latest revision of Department of the Environment and the Welsh Office (2004 edition) "The Building Regulations: Approved Document C" and used a sub-floor void of 150mm thickness.

2. The Typical Maximum Concentrations can be exceeded in certain circumstances should the conceptual site model indicate it is safe to do so. This is where professional judgement will be required, based on a thorough understanding of the gas-regime identified at the site where monitoring in the worst temporal conditions has occurred.

3. The GSV thresholds should not generally be exceeded without completion of a detailed gas risk assessment taking into account site-specific conditions.

A7.9 SITUATION B – SOLUTION

A7.9.1 On the basis of this Traffic Light classification the following protection should be applied to low-rise housing.

Table A10.5

Traffic Light Classification	Protection measures required
Green	Negligible gas regime identified and gas protection measures are not considered necessary.
Amber 1	Low to intermediate gas regime identified, which requires low-level gas protection measures, comprising a membrane and ventilated sub-floor void to create a permeability contrast to limit the ingress of gas into buildings. Gas protection measures should be as prescribed in BRE Report 414. Ventilation of the sub-floor void should facilitate a minimum of one complete volume change per 24 hours.
Amber 2	Intermediate to high gas regime identified, which requires high-level gas protection measures, comprising a membrane and ventilated sub-floor void to create a permeability contrast to prevent the ingress of gas into buildings. Gas protection measures should be as prescribed in BRE Report 414. A specialist contractor should always fit membranes. As with Amber 1, ventilation of the sub-floor void should facilitate a minimum of one complete volume change per 24 hours. Certification that these passive protection measures have been installed correctly should be provided.
Red	High gas regime identified. It is considered that standard residential housing would not normally be acceptable without a further Gas Risk Assessment and/or possible remedial mitigation measures to reduce and/or remove the source of gas.

A7.10 CODE OF PRACTICE – SOLUTIONS

A7.10.1 The Characteristic Gas Situation is determine in a similar manner to that recommended by CIRIA, see Table A7.2 above.

A7.10.2 Having selected the Characteristic Gas Situation, the appropriate gas protection could be selected for the building. The tables below give a guide as to the relative performance of the various designs and systems.

A7.10.3 A guidance value for the required gas protection, in the range 0 to 7 should be obtained from Table A7.6 below. Then, a combination of ventilation and/or barrier system should be chosen from Table A7.7 to meet that requirement.

Table A10.6

Characteristic gas situation, CS	NHBC *traffic light*	Required gas protection			
		Non-managed property, e.g. private housing	Public building [A]	Commercial buildings	Industrial buildings [B]
1	*Green*	0	0	0	0
2	*Amber 1*	3	3	2	1[C]
3	*Amber 2*	4	3	2	2
4	*Red*	6[D]	5[D] 6[E]	4 5 7	3 4 6

NOTE: Traffic light indications are taken from NHBC Report no.: 10627-R01 (04) [3] and are mainly applicable to low-rise residential housing. These are for comparative purposes but the boundaries between the traffic light indications and CS values do not coincide.

A) Public buildings include, for example, managed apartments, schools and hospitals.
B) Industrial buildings are generally open and well ventilated. However, areas such as office pods might require a separate assessment and may be classified as commercial buildings and require a different scope of gas protection to the main building.
C) Maximum methane concentration 20% otherwise consider an increase to CS3.
D) Residential building on higher traffic light/CS sites is not recommended unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations.
E) Consideration of issues such as ease of evacuation and how false alarms will be handled are needed when completing the design specification of any protection scheme.

A7.10.4 Having determined the appropriate guidance value from Table A7.6, an element or combination of elements from a), b), c) or d) in Table A7.7, should be chosen to achieve the required level of protection .

Table A10.7

PROTECTION ELEMENT/SYSTEM		SCORE	COMMENTS
a) Venting/dilution			
Passive sub floor ventilation (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.)[A]	Very good performance	2.5	*Ventilation performance in accordance with Annex A, ref. 9.65*
	Good performance	1	*If passive ventilation is poor this is generally unacceptable and some form of active system will be required*

PROTECTION ELEMENT/SYSTEM		SCORE	COMMENTS
Subfloor ventilation with active abstraction/pressurization (venting layer can be a clear void or formed using gravel, geocomposites, polystyrene void formers, etc.)[A)]		2.5	*There have to be robust management systems in place to ensure the continued maintenance of any ventilation system.* *Active ventilation can always be designed to meet good performance.* *Mechanically assisted systems come in two main forms: extraction and positive pressurization.*
Ventilated car park (basement or undercroft)		4	*Assumes car park is vented to deal with car exhaust fumes, designed to Building Regulations Document F and IstructE guidance*
b) Barriers			
Floor slabs			
Block and beam floor slab		0	*It is good practice to install ventilation in all foundation systems to effect pressure relief as a minimum.* *Breached in floor slabs such as joints have to be effectively sealed against gas ingress in order to maintain these performances*
Reinforced concrete ground bearing floor slab		0.5	
Reinforced concrete ground bearing foundation raft with limited service penetrations that are cast into slab		1.5	
Reinforced concrete cast in situ suspended slab with minimal service penetrations and water bars around all slab penetrations and at joints		1.5	
Fully tanked basement		2	
c) Membranes			
Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation[B), C)]		0.5	*The performance of membranes is heavily dependent on the quality and design of the installation, resistance to damage after installation, and the integrity of joints*
Proprietary gas resistant membrane to reasonable levels of workmanship/in line with current good practice under independent inspection (CQA)[B), C)]		1	
Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation		2	
d) Monitoring and detection (not applicable to non-managed property, or in isolation)			
Intermittent monitoring using hand held equipment		0.5	*Where fitted, permanent monitoring systems ought to be installed in the underfloor venting/dilution system in the first instance but can also be provided within the occupied space as a fail safe.*
Permanent monitoring and alarm system[A)]	Installed in the underfloor venting/ dilution system	2	
	Installed in the building	1	
e) Pathway intervention			

PROTECTION ELEMENT/SYSTEM	SCORE	COMMENTS
Pathway intervention	-	*This can consist of site protection measures for off-site or on-site sources (see Annex A, ref. 9.65)*
NOTE: In practice the choice of materials might well rely on factors such as construction method and the risk of damage after installation. It is important to ensure that the chosen combination gives an appropriate level of protection		

A) It is possible to test ventilation systems by installing monitoring probes for post installation validation.
B) If a 1200 g DPM material is to function as a gas barrier it should be installed according to BRE 414, ref. 9.67 being taped and sealed to all penetrations.
C) Polymeric Materials >1200g can be used to improve confidence in the barrier. Remember that their gas resistance is little more than the standard 1200g (proportional to thickness) but their physical properties mean that they are more robust and resistant to site damage.

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GAS AND GROUNDWATER MONITORING RESULTS

Project name:	**Llandudno Junction**			**Project number:**	**2230642**
Client:	**Conwy County Council**			**Date:**	**15/03/22**

Atmospheric Readings:	**O_2% v/v:**	20.6	**CO_2% v/v:**	ND	**CH_4% v/v:**	ND	**Weather Conditions:**	Fair	**Equipment:**	**GA5000**
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	NR	**Ground Conditions:**	Fair	**Readings by:**	**RS**
									Checked by:	**JT**

Location	**Time**	**Standpipe Diameter (mm)**	**Atmospheric Pressure (mb)**	**Differential Pressure (mb)**	**Gas Flow Rate** (l/hr)		**O_2** (% v/v)		**CO_2** (% v/v)		**CH_4** (% v/v)		**H_2S** (ppm)		**CO** (ppm)		**VOC** (ppm)		**Depth to LNAPL**	**Water Depth**	**Depth to DNAPL**	**Well Depth**
					Peak min (-) or max (+)	**Steady**	**Low**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	16:10:00	50	1015	NR	ND	ND	2.9	10.6	7.8	4.9	77.3	40.1	1.0	1.0	1.0	1.0	ND	ND	ND	5.07	ND	12.50
BH01BA	15:10:00	38	1015	NR	4.7	3.6	0.1	0.1	5.2	5.2	53.4	53.3	1.0	ND	1.0	ND	ND	ND	ND	2.14	ND	4.15
BH02A	11:30:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	4.84	ND	19.55
BH02B	09:58:00	38	1016	NR	-0.2	-0.2	ND	ND	0.5	0.5	70.1	70.1	ND	ND	ND	ND	ND	ND	ND	2.16	ND	3.12
BH04A	13:00:00	50	1015	NR	0.1	0.1	0.6	0.6	14.0	1.0	93.2	93.2	1.0	1.0	1.0	1.0	ND	ND	ND	2.64	ND	2.93
BH04B	14:50:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.93	ND	12.74
BH05A	16:30:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.72	ND	11.54
BH05B	16:35:00	38	1015	NR	0.2	0.2	7.2	9.8	6.7	4.5	75.6	46.5	1.0	ND	1.0	1.0	ND	ND	ND	2.63	ND	5.00

Remarks:

BH01A & BH02B - monitoring stopped after 5 mins

BH02A, BH04B & BH05A - unable to obtain gas readings due to diver being installed in hole

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	**Llandudno Junction**			**Project number:**	**2230642**	**Equipment:**	**GA5000**
Client:	**Conwy County Council**			**Date:**	**16/03/22**	**Visit:**	**1**
Atmospheric Readings:	**O_2% v/v:** 20.6	**CO_2% v/v:** ND	**CH_4% v/v:** ND	**Weather Conditions:**	Rain	**Readings by:**	**RS**
	H_2S ppm: ND	**CO ppm:** ND	**Pressure trend:** NR	**Ground Conditions:**	Firm	**Checked by:**	**JT**

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH03A	09:30:00	50	1016	NR	1.8	1.5	19.6	19.6	1.5	1.5	3.7	3.7	1.0	1.0	1.0	1.0	ND	ND	ND	4.72	ND	18.31
BH03B	09:50:00	38	1016	NR	0.3	0.3	ND	ND	2.8	2.6	88.0	86.9	ND	ND	ND	ND	ND	ND	ND	1.87	ND	4.86
BH06A	12:35:00	50	1017	NR	6.1	3.2	0.2	0.2	2.8	2.7	83.8	83.8	ND	ND	ND	ND	ND	ND	ND	1.86	ND	9.20
BH06B	13:02:00	38	1017	NR	12.1	8.1	ND	ND	2.2	1.3	70.9	31.5	ND	ND	1.0	ND	ND	ND	ND	1.75	ND	3.23
BH07A	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
BH07B	14:59:00	38	1018	NR	ND	ND	16.7	16.9	2.5	2.5	0.2	0.2	1.0	1.0	ND	ND	ND	ND	ND	1.50	ND	1.60
BH08A	14:30:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	0.92	ND	20.00
BH08B	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Remarks :

BH07A & BH08B - unable to monitor exploratory hole due to location and surrounding area being under water

BH08A - unable to obtain gas readings due to diver being installed in hole

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

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GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction					**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council					**Date:**	07/04/22	**Visit:**	2
Atmospheric Readings:	**O_2% v/v:** 20.9	**CO_2% v/v:** 0.1	**CH_4% v/v:** ND	**Weather Conditions :**	Wet, windy			**Readings by:**	TB
	H_2S ppm: ND	**CO ppm:** ND	**Pressure trend:** NR	**Ground Conditions :**	Wet, windy			**Checked by:**	JT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	14:24:00	50	996	NR	0.3	0.3	0.2	6.5	7.5	5.7	92.6	55.9	ND	ND	ND	ND	ND	ND	ND	5.15	ND	13.54
BH01BA	14:40:00	38	996	NR	4.2	2.2	0.1	0.1	5.8	5.8	38.9	38.9	ND	ND	ND	ND	ND	ND	ND	1.80	ND	4.33
BH02A	13:15:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	4.92	ND	19.40
BH02B	13:20:00	38	996	NR	-1.2	-1.2	0.2	0.2	0.6	0.6	68.9	68.9	ND	ND	ND	ND	ND	ND	ND	2.27	ND	3.15
BH05A	10:45:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.74	ND	11.59
BH05B	10:38:00	38	996	1.43	0.2	0.1	4.6	10.6	8.7	5.0	84.1	43.0	ND	ND	ND	ND	ND	ND	ND	2.48	ND	5.02
BH08A	15:30:00	50	996	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.21	ND	17.80
BH08B	15:35:00	38	996	NR	3.0	0.2	18.1	18.1	1.6	1.6	ND	ND	ND	ND	8.0	ND	ND	ND	ND	1.05	ND	3.05

Remarks :

BH02A, BH05A & BH08A - unable to obtain gas readings due to diver being installed in hole

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

IAN FARMER ASSOCIATES

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction	**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council	**Date:**	08/04/22	**Visit:**	2

Atmospheric Readings:	**O_2% v/v:**	20.8	**CO_2% v/v:**	0.1	**CH_4% v/v:**	ND	**Weather Conditions :** Light cloud	**Readings by:**	TB
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	NR	**Ground Conditions :** Dry	**Checked by:**	JT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH03A	11:00:00	50	1000	NR	24.2	17.2	12.0	12.0	3.4	3.4	27.4	27.4	1.0	1.0	4.0	3.0	ND	ND	ND	4.82	ND	18.20
BH03B	10:06:00	36	1000	NR	8.8	8.8	0.1	0.1	2.4	2.4	97.2	96.9	ND	ND	ND	ND	ND	ND	ND	2.07	ND	4.85
BH06A	14:00:00	50	1000	NR	0.3	0.1	0.2	0.2	2.5	2.5	86.8	86.7	ND	ND	ND	ND	ND	ND	ND	1.75	ND	10.60
BH06B	12:04:00	36	1000	NR	14.5	5.0	0.1	0.1	6.6	6.6	85.2	83.5	ND	ND	ND	ND	ND	ND	ND	1.81	ND	3.24

Remarks :

None

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

IAN FARMER ASSOCIATES

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	**Llandudno Junction**			**Project number:**	**2230642**
Client:	**Conwy County Council**			**Date:**	**11/04/22**

Atmospheric Readings:	**O_2% v/v:**	20.8	**CO_2% v/v:**	ND	**CH_4% v/v:**	ND	**Weather Conditions :**	Light cloud	**Readings by:**	**AC/FH**
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	NR	**Ground Conditions :**	Dry	**Checked by:**	**JT**

Location	**Time**	**Standpipe Diameter (mm)**	**Atmospheric Pressure (mb)**	**Differential Pressure (mb)**	**Gas Flow Rate** (l/hr)		**O_2** (% v/v)		**CO_2** (% v/v)		**CH_4** (% v/v)		**H_2S** (ppm)		**CO** (ppm)		**VOC** (ppm)		**Depth to LNAPL**	**Water Depth**	**Depth to DNAPL**	**Well Depth**
					Peak min (-) or max (+)	**Steady**	**Low**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**Peak**	**Steady**	**(mbgl)**	**(mbgl)**	**(mbgl)**	**(mbgl)**
BH04A	13:51:00	50	1005	0.92	-0.2	-0.2	0.5	0.5	1.7	1.7	88.2	88.2	1.0	ND	1.0	ND	ND	ND	ND	Dry	ND	3.02
BH04B	14:05:00	50	1005	0.00	ND	ND	19.7	20.7	ND	ND	1.2	0.3	ND	ND	24.0	23.0	145.0	83.0	ND	3.34	ND	12.83
BH05A	15:50:00	50	1004	0.00	ND	ND	20.6	20.8	0.3	0.1	0.4	0.1	1.0	ND	1.0	ND	2.6	2.1	ND	2.77	ND	11.57
BH07A	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
BH07B	11:59:00	38	1007	0.02	ND	ND	0.2	0.2	4.9	4.9	1.7	1.7	1.0	1.0	1.0	ND	ND	ND	ND	1.50	ND	1.61

Remarks :

BH04B & BH05A - bung installed in previous diver location, gas readings taken after 3 hours

BH07A - unable to locate standpipe due to trafic management eqiupment being placed over hole

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

IAN FARMER ASSOCIATES

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction							**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council							**Date:**	21/04/22	**Visit:**	3
Atmospheric Readings:	**O_2% v/v:**	20.7	**CO_2% v/v:**	0.1	**CH_4% v/v:**	ND	**Weather Conditions:**	Dry, cloudy		**Readings by:**	BL
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	NR	**Ground Conditions:**	Dry		**Checked by:**	VT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	10:35:00	50	1015	6.60	-3.2	0.1	0.2	0.2	6.6	6.6	87.0	86.9	ND	ND	1.0	ND	ND	ND	ND	5.17	ND	13.50
BH01BA	10:46:00	19	1016	-0.30	-2.7	-0.2	0.3	0.3	4.9	4.9	17.5	17.5	ND	ND	ND	ND	ND	ND	ND	2.00	ND	4.33
BH02A	11:01:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	4.96	ND	19.45
BH02B	10:56:00	19	1016	0.45	-0.4	-0.4	0.1	0.1	0.6	0.6	63.2	63.2	ND	ND	ND	ND	ND	ND	ND	2.34	ND	3.18
BH03A	10:24:00	50	1015	-0.21	-1.8	0.5	13.6	13.6	2.7	2.7	19.4	19.4	ND	ND	3.0	2.0	ND	ND	ND	4.81	ND	18.24
BH03B	10:15:00	19	1015	-0.21	-1.2	-1.2	0.2	0.2	2.2	2.2	93.6	94.0	1.0	1.0	ND	ND	ND	ND	ND	1.97	ND	4.86
BH04A	12:12:00	50	1016	-0.07	-2.8	0.3	0.9	0.9	1.9	1.9	73.2	73.2	ND	ND	ND	ND	ND	ND	ND	Dry	ND	3.00
BH04B	12:26:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	4.15	ND	12.86
BH05A	09:57:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.80	ND	11.54
BH05B	09:40:00	19	1015	-0.97	-7.2	-3.2	5.0	10.7	7.9	3.7	85.6	25.1	ND	ND	ND	ND	0.1	ND	ND	2.74	ND	5.00
BH06A	11:53:00	50	1016	-0.30	-0.4	0.3	0.2	0.2	2.2	2.2	81.8	81.8	ND	ND	ND	ND	ND	ND	ND	1.85	ND	10.62
BH06B	11:45:00	19	1016	NR	-4.7	-4.7	0.6	1.4	5.4	5.4	79.2	74.3	ND	ND	ND	ND	ND	ND	ND	1.74	ND	3.20
BH07A	12:38:00	50	1016	-0.02	0.2	0.2	3.0	3.0	3.6	3.6	45.6	45.4	ND	ND	2.0	2.0	ND	ND	ND	2.18	ND	17.05
BH07B	12:46:00	19	1016	0.03	0.2	0.2	0.1	0.2	4.2	4.2	4.9	4.8	ND	ND	ND	ND	ND	ND	ND	1.51	ND	1.59
BH08A	11:32:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.30	ND	17.80
BH08B	11:22:00	19	1016	-16.35	-0.3	-0.3	20.7	21.0	0.1	0.1	ND	ND	ND	ND	1.0	1.0	ND	ND	ND	0.86	ND	3.06

Remarks:

BH02A, BH04B & BH05A - unable to obtain gas readings due to diver being installed in hole

BH07A - peaty odour

BH08A - unable to obtain gas readings due to diver being installed in hole

BH04B - pump failed after 30 seconds

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction	**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council	**Date:**	04/05/22	**Visit:**	4

Atmospheric Readings:	**O_2% v/v:**	20.9	**CO_2% v/v:**	ND	**CH_4% v/v:**	ND	**Weather Conditions:**	Cool, overcast, raining	**Readings by:**	FH
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	Steady	**Ground Conditions:**	Wet	**Checked by:**	VT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	11:35:00	50	1018	0.89	0.1	0.1	0.2	2.9	5.7	5.7	88.2	72.5	ND	ND	ND	ND	ND	ND	NR	5.27	NR	13.54
BH01BA	11:25:00	35	1018	0.00	ND	ND	4.2	17.5	4.3	1.1	13.9	1.3	ND	ND	ND	ND	ND	ND	NR	1.91	NR	4.35
BH02A	11:05:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	5.01	NR	19.64
BH02B	11:15:00	35	1018	0.00	-0.1	-0.1	0.2	0.2	0.8	0.8	68.0	68.0	ND	ND	ND	ND	ND	ND	NR	2.34	NR	3.20
BH03A	11:50:00	50	1018	8.77	1.8	1.8	9.6	9.6	2.1	2.1	38.8	38.7	ND	ND	2	1	ND	ND	NR	4.90	NR	18.25
BH03B	12:05:00	35	1018	0.02	ND	ND	0.2	0.2	2.2	2.2	93.1	93.1	ND	ND	ND	ND	ND	ND	NR	2.37	NR	4.85
BH04A	12:20:00	50	1018	-0.10	-1.4	-1.4	1.7	1.7	2.1	2.1	73.5	73.5	ND	ND	ND	ND	ND	ND	NR	Dry	NR	3.01
BH04B	12:30:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.26	NR	12.85
BH05A	10:50:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.88	NR	5.81
BH05B	10:55:00	35	1018	0.76	0.3	0.3	3.5	7.2	7.9	5.8	85.7	52.7	ND	ND	ND	ND	ND	ND	NR	2.80	NR	5.04
BH06A	10:20:00	50	1018	0.05	0.4	0.4	0.1	0.1	2.4	2.4	82.6	82.6	ND	ND	ND	ND	ND	ND	NR	1.95	NR	10.65
BH06B	10:10:00	35	1018	0.03	5.6	1.6	0.5	1.1	4.0	4.0	57.0	54.3	ND	ND	ND	ND	ND	ND	NR	1.85	NR	3.26
BH07A	09:45:00	50	1018	0.07	0.1	0.1	12.9	12.9	2.6	2.5	11.1	10.8	ND	ND	1	ND	ND	ND	NR	2.02	NR	17.04
BH07B	09:30:00	35	1018	0.17	ND	ND	7.7	7.8	4.6	4.6	2.5	2.2	ND	ND	ND	ND	ND	ND	NR	Dry	NR	1.62
BH08A	10:40:00	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.38	NR	17.76
BH08B	10:30:00	35	1018	0.26	0.3	0.2	20.6	20.6	0.3	0.3	0.2	0.2	ND	ND	ND	ND	ND	ND	NR	0.91	NR	3.05

Remarks:

BH02A - unable to obtain gas readings due to diver being installed in hole, diver out 11:09 - 11:15 am

BH05A - unable to obtain gas readings due to diver being installed in hole, diver out 10:51 - 10:54 am

BH04BA - unable to obtain gas readings due to diver being installed in hole, diver out 12:30 - 12:33 pm

BH08A - unable to obtain gas readings due to diver being installed in hole, diver out 10:41 - 10:45 am, base of standpipe at 17.76mbgl appears to be silted up

BH08B - pump failure after 20 seconds, stopped monitoring

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

IAN FARMER ASSOCIATES

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction				**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council				**Date:**	23/05/22	**Visit:**	5
Atmospheric Readings:	**O_2% v/v:** 20.9	**CO_2% v/v:** ND	**CH_4% v/v:** ND	**Weather Conditions:**	Overcast, cool, occasional showers		**Readings by:**	AC
	H_2S ppm: ND	**CO ppm:** ND	**Pressure trend:** NR	**Ground Conditions:**	Dry		**Checked by:**	VT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	13:08:00	50	1002	0.29	0.2	0.2	0.4	4.9	7.2	5.8	88.9	65.7	2	1	1	1	ND	ND	ND	5.27	ND	13.50
BH01BA	13:19:00	35	1002	-0.04	0.2	ND	12.4	15.7	3.2	1.8	3.5	0.0	2	2	ND	ND	ND	ND	ND	1.76	ND	4.34
BH02A	12:47:00	50	1002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	5.03	ND	19.75
BH02B	12:53:00	35	1002	0.29	0.3	0.3	0.1	0.1	1.9	1.9	75.2	73.1	1	ND	ND	ND	ND	ND	ND	2.20	ND	3.16
BH03A	13:40:00	50	1003	-0.37	0.1	0.1	19.8	19.8	0.4	0.4	3.4	3.4	2	2	ND	ND	ND	ND	ND	4.91	ND	18.28
BH03B	13:31:00	35	1002	0.24	0.1	0.1	0.1	0.1	2.7	2.7	97.6	97.5	2	2	ND	ND	ND	ND	ND	2.24	ND	4.85
BH04A	11:55:00	50	1002	0.10	-0.1	-0.1	0.7	3.1	2.7	2.4	89.8	77.3	1	1	1	ND	ND	ND	ND	Dry	ND	3.00
BH04B	11:45:00	50	1002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	4.08	ND	12.84
BH05A	11:09:00	50	1002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.87	ND	8.66
BH05B	11:05:00	35	1002	0.95	0.5	0.5	4.0	7.5	10.5	7.1	89.5	53.7	1	ND	ND	ND	ND	ND	ND	2.78	ND	5.02
BH06A	10:30:00	50	1002	0.45	0.8	0.8	0.2	0.2	2.7	2.7	88.1	87.8	1	1	1	ND	ND	ND	ND	1.78	ND	10.64
BH06B	10:42:00	35	1002	0.02	ND	ND	13.8	19.2	3.1	0.8	0.8	0.2	1	1	1	1	ND	ND	ND	1.80	ND	2.23
BH07A	09:15:00	50	1002	0.03	-0.1	ND	10.5	10.5	4.4	4.4	19.1	19.1	5	5	2	2	ND	ND	ND	2.33	ND	17.05
BH07B	09:00:00	35	1002	-0.07	ND	ND	12.9	16.9	4.7	4.2	0.9	0.1	ND	ND	1	ND	ND	ND	ND	1.51	ND	1.59
BH08A	09:50:00	50	1002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND	2.34	ND	17.77
BH08B	09:40:00	35	1002	0.22	ND	ND	20.1	20.1	0.6	0.6	1.2	1.2	1	1	5	1	ND	ND	ND	0.95	ND	3.07

Remarks:

BH02A - diver removed at 11:48 according to app. (12:48 by watch)

BH04A -casing flooded, bailed with syringe, no distinct odor, orangeish colour

BH04B - diver removed at 10:46 according to app. (11:46 by watch)

BH05A - diver removed at 10:10 according to app. (11:10 by watch)

BH07A - water around casing, water had polychromatic sheen, distinct smell of sulphur on the dip probe when removed from well

BH08A - diver removed at 08:56 according to app. (09:56 by watch)

BH08B - pump failure after 50 seconds

Barometer near BH08A and B removed at 13:34 according to app. (14:34 by watch)

All wells that contained divers have been bunged in prep for visit 6

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

IAN FARMER ASSOCIATES

GAS AND GROUNDWATER MONITORING RESULTS

Project name:	Llandudno Junction	**Project number:**	2230642	**Equipment:**	GA5000
Client:	Conwy County Council	**Date:**	30/05/22	**Visit:**	6

Atmospheric Readings:	**O_2% v/v:**	21	**CO_2% v/v:**	0.1	**CH_4% v/v:**	ND	**Weather Conditions:**	Overcast, cool, rain	**Readings by:**	AC
	H_2S ppm:	ND	**CO ppm:**	ND	**Pressure trend:**	NR	**Ground Conditions:**	Wet	**Checked by:**	VT

Location	Time	Standpipe Diameter (mm)	Atmospheric Pressure (mb)	Differential Pressure (mb)	Gas Flow Rate (l/hr)		O_2 (% v/v)		CO_2 (% v/v)		CH_4 (% v/v)		H_2S (ppm)		CO (ppm)		VOC (ppm)		Depth to LNAPL	Water Depth	Depth to DNAPL	Well Depth
					Peak min (-) or max (+)	Steady	Low	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	(mbgl)	(mbgl)	(mbgl)	(mbgl)
BH01A	09:44:00	50	1011	0.17	0.2	ND	0.2	12.3	7.8	3.9	92.8	34.2	1	ND	2	2	ND	ND	ND	5.32	ND	13.50
BH01BA	10:04:00	35	1011	0.31	1.9	0.9	0.2	0.2	7.9	7.9	8.2	8.2	1	ND	1	ND	ND	ND	ND	1.90	ND	4.35
BH02A	09:18:00	50	1011	0.19	1.3	1.3	20.2	20.2	0.3	0.3	0.8	0.8	ND	ND	2	ND	ND	ND	ND	5.09	ND	19.50
BH02B	09:33:00	35	1011	0.28	0.1	0.1	0.1	0.1	1.8	1.8	74.5	74.5	ND	ND	1	ND	ND	ND	ND	2.20	ND	3.15
BH03A	10:33:00	50	1012	7.21	16.4	10.3	13.8	13.8	3.3	3.3	25.6	25.6	2	2	3	2	ND	ND	ND	4.94	ND	18.30
BH03B	10:19:00	35	1012	0.05	ND	ND	0.2	0.2	3.1	3.1	97.9	97.7	1	1	1	ND	ND	ND	ND	2.33	ND	4.86
BH04A	11:44:00	50	1012	0.31	0.1	0.1	0.1	0.1	3.1	3.1	88.2	88.2	1	1	1	1	ND	ND	ND	Dry	ND	3.00
BH04B	11:54:00	50	1012	2.12	3.1	1.3	1.3	1.3	4.4	4.4	82.9	82.9	2	2	2	1	ND	ND	ND	4.16	ND	13.87
BH05A	10:50:00	50	1012	3.15	3.7	3.6	0.1	0.1	14.9	14.9	87.8	86.0	2	2	2	1	ND	ND	ND	2.92	ND	8.65
BH05B	11:03:00	35	1012	0.53	0.3	0.3	4.1	7.7	11.0	7.3	90.1	53.5	2	2	1	1	ND	ND	ND	2.85	ND	5.02
BH06A	14:11:00	50	1010	1.67	0.8	0.8	0.1	0.1	2.8	2.8	88.5	88.4	ND	ND	ND	ND	ND	ND	ND	1.88	ND	10.65
BH06B	14:23:00	35	1010	1.63	4.9	4.1	0.1	0.1	6.9	6.9	20.5	20.5	ND	ND	1	ND	ND	ND	ND	1.87	ND	3.24
BH07A	12:20:00	50	1012	0.02	0.1	0.1	12.8	12.8	3.6	3.6	10.9	10.9	ND	ND	1	1	ND	ND	ND	2.38	ND	17.06
BH07B	12:11:00	35	1012	-0.03	ND	ND	18.9	21.0	1.4	1.3	8.3	ND	2	1	ND	ND	ND	ND	ND	1.53	ND	1.60
BH08A	13:44:00	50	1010	0.02	ND	ND	1.5	1.5	6.4	6.4	3.6	3.6	ND	ND	1	ND	ND	ND	ND	2.33	ND	17.82
BH08B	13:34:00	35	1010	0.15	-3.6	ND	19.5	19.5	0.8	0.8	0.3	ND	ND	ND	3	1	ND	ND	ND	0.95	ND	3.07

Remarks:

BH01A - gas levels did not stabilise after 10 minutes of monitoring

BH07A - water with polychromatic sheen around casing, sulphur odour on dip probe

BH08A - casing flooded with yellowish water, sulphur odour on dip probe

BH08B - pump failure after 40 seconds.

Symbols:

ND - not detected

NR - not recorded

>>>>> denotes flow above upper limit of detection (>30l/hr)

<<< denotes negative flow below lower limit of detection (<-10l/hr)

>Max denotes in excess of lower explosive limit

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*08/04/2022*		
Borehole Number:	*BH01A*	**Well Diameter:**	*50mm*
Water Level Before (mbgl):	*5.15*	**Water Level After (mbgl):**	*5.20*
Well Depth (mbgl):	*13.54*	**Total Volume Purged (L):**	*75*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Light brownish grey*	**Odour:**	*None*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
09:22	*5.20*	*NR*	*1381*	*-163.9*	*10.6*	*8.13*
09:23	*5.21*	*NR*	*899*	*-182.3*	*11.18*	*8.13*
09:28	*5.21*	*NR*	*850*	*-188.8*	*11.20*	*8.12*
09:31	*5.21*	*NR*	*820*	*-193.*	*11.33*	*8.09*
09:34	*5.21*	*NR*	*807*	*-202.8*	*11.30*	*8.08*
09:37	*5.20*	*NR*	*781*	*-211.8*	*11.40*	*8.06*

Remarks: *None*

Monitored By:	*TB*
Checked By:	*JT*

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*07/04/2022*		
Borehole Number:	*BH01B*	**Well Diameter:**	*38mm*
Water Level Before (mbgl):	*1.80*	**Water Level After (mbgl):**	*4.00*
Well Depth (mbgl):	*4.33*	**Total Volume Purged (L):**	*5*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Dark grey*	**Odour:**	*Sulpurous*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
14:57	*3.00*	*NR*	*3123*	*-240.8*	*11*	*8.13*

Remarks: *Water level dropping rapidly.*

Monitored By:	*TB*
Checked By:	*JT*

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*07/04/2022*		
Borehole Number:	*BH02A*	**Well Diameter:**	*50mm*
Water Level Before (mbgl):	*4.92*	**Water Level After (mbgl):**	*4.94*
Well Depth (mbgl):	*19.40*	**Total Volume Purged (L):**	*115*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Light brownish grey*	**Odour:**	*None*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
13:41	*4.91*	*NR*	*1015*	*-193.4*	*10.7*	*8.38*
13:44	*4.94*	*NR*	*884*	*-206.4*	*10.98*	*8.34*
13:47	*4.95*	*NR*	*875*	*-212.3*	*11.20*	*8.33*
13:50	*4.94*	*NR*	*864*	*-214.6*	*11.40*	*8.31*
13:53	*4.94*	*NR*	*857*	*-224.3*	*11.30*	*8.31*

Remarks: *None*

Monitored By:	*TB*
Checked By:	*JT*

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*07/04/2022*		
Borehole Number:	*BH05A*	**Well Diameter:**	*50mm*
Water Level Before (mbgl):	*2.74*	**Water Level After (mbgl):**	*2.85*
Well Depth (mbgl):	*11.59*	**Total Volume Purged (L):**	*80*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Light grey*	**Odour:**	*slight hydrocarbon*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
12:35	*2.74*	*NR*	*2581*	*-86.6*	*10.1*	*7.76*
12:39	*2.75*	*NR*	*4822*	*-150.9*	*11.35*	*8.03*
12:42	*2.76*	*NR*	*4887*	*-161.2*	*11.70*	*8.06*
12:46	*2.85*	*NR*	*4996*	*-162.9*	*11.80*	*8.03*
12:50	*2.85*	*NR*	*5181*	*-183.6*	*11.70*	*8.19*
12:54	*2.85*	*NR*	*5391*	*-186.5*	*11.70*	*8.23*

Remarks: *None*

Monitored By:	*TB*
Checked By:	

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*07/04/2022*		
Borehole Number:	*BH05B*	**Well Diameter:**	*38mm*
Water Level Before (mbgl):	*2.48*	**Water Level After (mbgl):**	*3.20 (+ recharging)*
Well Depth (mbgl):	*5.02*	**Total Volume Purged (L):**	*12*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Grey*	**Odour:**	*Hydrocarbons*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
12:11	*2.48*	*0*	*1802*	*-101.2*	*8.3*	*8.30*
12:18	*2.69*	*0*	*1942*	*-156.6*	*9.90*	*7.99*
12:23	*3.00*	*0*	*1976*	*-158.1*	*9.80*	*8.01*
12:28	*3.20*	*0*	*2206*	*-147.1*	*10.13*	*7.87*

Remarks: *None*

Monitored By:	*TB*
Checked By:	*JT*

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Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*07/04/2022*		
Borehole Number:	*BH08A*	**Well Diameter:**	*50mm*
Water Level Before (mbgl):	*2.21*	**Water Level After (mbgl):**	*2.65*
Well Depth (mbgl):	*17.80*	**Total Volume Purged (L):**	*150*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Brown*	**Odour:**	*slight odour/earthy*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
16:04	*2.20*	*0*	*2640*	*-236.2*	*10.50*	*8.39*
16:08	*2.44*	*0*	*2583*	*-246.5*	*10.70*	*8.35*
16:13	*2.42*	*0*	*2222*	*-248.9*	*10.95*	*8.39*
16:16	*2.53*	*0*	*2187*	*-247.8*	*11.10*	*8.40*
16:19	*2.62*	*0*	*2178*	*-255.7*	*11.20*	*8.39*
16:22	*2.66*	*0*	*2175*	*-253.6*	*11.30*	*8.39*
16:25	*2.65*	*0*	*2146*	*-263.5*	*11.30*	*8.36*
16:28	*2.65*	*0*	*2050*	*-265.9*	*11.38*	*8.38*

Remarks: *None*

Monitored By:	*TB*
Checked By:	*JT*

IAN FARMER ASSOCIATES
Geotechnical & Environmental Specialists

Water Sampling Results

Contract Number:	*2230642*		
Contract Name:	*Brickworks, Llandudno Junction*		
Date:	*11/04/2022*		
Borehole Number:	*BH04B*	**Well Diameter:**	*50mm*
Water Level Before (mbgl):	*3.34*	**Water Level After (mbgl):**	*6.66*
Well Depth (mbgl):	*12.83*	**Total Volume Purged (L):**	*57*
LNAPL (mbgl):	*ND*	**DNAPL (mbgl):**	*ND*
Colour:	*Light brown*	**Odour:**	*Odourless*

Time	Water Level	Dissolved Oxygen	Conductivity	ORP	Temperature	pH
hh:mm	mbgl	mg/l	uS/cm	mV	°C	
14:55	*7.47*	*NR*	*1369*	*-191.3*	*12.3*	*8.10*
15:06	*6.54*	*NR*	*1355*	*-214.7*	*12.20*	*8.16*
15:13	*6.54*	*NR*	*1328*	*-202.6*	*12.00*	*8.12*
15:21	*15:50*	*NR*	*1295*	*-251.4*	*12.20*	*8.03*

Remarks: *None*

Monitored By:	*FH/AC*
Checked By:	*JT*