256 Gray's Inn Road

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Ground Contamination Interpretive Report

May 2019

UCL ION/DRI
CONTAMINATED LAND INTERPRETATIVE REPORT

Revision History

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CONTENTS

DRAWINGS

APPENDICES

1. INTRODUCTION

1.1. Brief

Ramboll have been appointed by the University College London to provide a Contaminated Land Interpretative Report for the proposed redevelopment of the Eastman Dental Hospital (EDH) site.

A Contaminated Land and Geotechnical Desk Study were completed by Ramboll with a subsequent ground investigation designed by Ramboll and undertaken by Concept Site Investigations (Concept) in May to July 2018.

This report discusses the findings of the ground investigation and includes a series of conclusions and recommendations relating to the potential risks and constraints on development at the site associated with contaminated land. It does not contain information relating to the geotechnical elements of the ground investigation, and interpretation of the geotechnical aspects of the ground investigation are discussed in the Ramboll Ground Investigation Report (October 2018).

The Eastman Dental Hospital site is split into three 'Plots'; Plot 1 in the north, Plot 2 in the south west and Plot 3 in the south east. The ground investigation was undertaken in Plot 1 only, and as such this report does not contain any site specific information with regards to Plot 2 and Plot 3. Plot 1 is therefore referred to as 'the site' from herein.

1.2. Previous Reports

The following reports have been prepared for the site which should be read in conjunction with this Interpretative Report:

- Ramboll (September 2018): Geotechnical and Geoenvironmental Desk Study (Report ref: BEMP-RAM-P1-XX-RP-CG-0001);
- Ramboll (September 2018): Ground Investigation Report (Report ref: BEMP-RAM-P1-XX-RP-CG-0002),; and
- Concept (September 2018): Site Investigation Report (Report ref: 18/3113 – FR 00).

These reports are referenced as appropriate herein.

1.3. Proposed Development

The site has been identified as the potential new home for the Institute of Neurology (IoN) / Dementia Research Institute (DRI) Hub. The current proposals assume the retention of the Alexandra Wing which fronts onto Gray's Inn Road, and the full demolition of Sussex, Victoria and 'New' Wings that form the courtyard behind. The three demolished wings will be replaced with a new four or five-storey construction forming large and efficient floor plates suitable for high performance wet laboratories. At the time of writing a central collaboration space with house offices, break-out working spaces and circulation. Below ground, the proposed two-storey basement (approximately 12mbgl) will comprise large technical facilities and further out-patient spaces including MRI scanners. Several options were considered for the layout of the atrium. It should be noted that there is potential for a change in scope.

The building will cover the majority of the site, with proposed hardstanding on all external areas.

1.4. Objectives

The objective of this ground contamination interpretative report is to assess the potential liabilities and risks associated with potential contaminants in the ground and groundwater in accordance with current UK legislation and guidance.

1.5. Scope

The scope of works for this phase of works includes:

- To summarise the ground investigation and its findings;
- To assess the presence and extent of Made Ground at the site;
- To assess the presence, likely extent and nature of potential contaminants;
- To conduct a contaminated land risk assessment for the existing site and proposed development based on the results from the ground investigation; and
- To provide recommendations for future works, where appropriate.

1.6. Constraints and Limitations

This report is intended for the University College London (UCL) for the purpose of assisting them in evaluating the site in the context of the proposed development. This report should not be used in whole or in part by any third parties without the express permission of Ramboll in writing.

Ramboll has endeavoured to assess all information provided to them. The report includes summaries of information from external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon. The recommendations summarised in this report relate to the feasibility of developing on the site are based on information gained at the time of writing the report. Any substantial changes to the use of the site may require a reassessment of the implications of the risks identified and a review of the recommendations.

The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.

It should be noted that although every effort has been made to ensure the accuracy of the data obtained from the investigation, the possibility exists for variations in ground and groundwater conditions between and around the borehole locations. In addition, groundwater levels will vary seasonally and with changes in weather conditions.

References to possible asbestos containing material made within this report do not constitute an asbestos survey.

2. SITE SETTING

2.1. Site Location

The site is located within the London Borough of Camden, approximately 600m south to southeast of the King's Cross St. Pancras Underground Station. The site occupies approximately 0.39ha and the centre of the site is located at approximate National Grid reference TQ 530699, 182515.

A Site Location Plan is appended to this report within Appendix A.

2.2. Site Description

At present the site is currently occupied by the Eastman Dental Hospital operated by UCLH, and is divided into three distinct areas; Plot 1 in the north of the site, Plot 2 in the southwest of the site and Plot 3 in the southeast of the site. Plots are not distinct now but have been determined as part of the overall site redevelopment strategy. Plot 1 comprises the historic 'Royal Free Hospital', now part of the Eastman Dental Hospital, with four hospital wings surrounding a central courtyard. The Alexandra Wing, Sussex Wing, Victoria Wing and New Wing bound the courtyard to the west, north, east and south respectively. The central courtyard contains a large mature tree, with an archway leading to a car park along the east of Plot 1.

Plot 2 comprises the Eastman Dental Clinic facing onto Grays Inn Road, the whole of the EDC is listed as a Grade II Listed Building. A split level courtyard is also located in the east of Plot 2.

Plot 3 is occupied by the Levy Wing, which is used for offices and laboratories. A car park and waste storage area is located adjacent to the east of Plot 3, with a security gate and walkway leading to the car park in the east of Plot 1.

A number of below ground structures are present across the site, with basements used as plant rooms and laboratories underlying Plot 1. A number of underground services are known to be present; a utilities survey was undertaken prior to the ground investigation by RPS – Midland Survey, the results of which are appended to this report as Drawing JKK9984-1.

The ground investigation undertaken by Concept comprised Plot 1 only, and as such this Interpretative Report does not include site specific information with regards to Plot 2 and Plot 3.

2.3. Surrounding Land Use

The site lies within an area of mixed use including commercial, industrial, residential and open space.

The site is bound to the:

- North by the Calthorpe Project located on Metropolitan open land;
- East by a retaining wall, and residential properties east of this. The Levy Wing (Plot 3) is located to the south east of Plot 1;
- South by the Eastman Dental Clinic, a Grade II Listed Building, and St. Andrew's Gardens south of this; and
- West by Grays Inn Road with commercial/residential properties.

2.4. Anticipated Ground Conditions

A review of the geology of the site was undertaken as part of the Geotechnical and Geoenvironmental Desk Study (Ramboll, March 2018), assessed using the British Geological Survey Map, Sheet 256 – Solid and Drift Edition for North London, and publicly available historical borehole logs from BGS online.

The BGS maps indicate the geology surrounding the site to comprise superficial deposits of River Terrace Deposits (Hackney Gravels), underlain by London Clay. The Lambeth Group, Thanet Sands and Chalk Group are anticipated to be present at depth. This is confirmed by the local BGS borehole logs, which also note variable thickness of the overlying Made Ground.

Made Ground and fill material is likely to be present on site, associated with historical and current land use.

2.5. Preliminary Conceptual Site Model

A preliminary conceptual site model was developed within the Geotechnical and Geoenvironmental Desk Study (Ramboll, March 2018).

The following potential sources of ground contamination have been identified onsite (Plot 1):

- Made Ground and fill material of unknown thickness and chemical composition;
- Current and historical use of the site as a hospital with car parking in the east of Plot 1;
- Laboratories and plant rooms within the basement.

The following potential sources of ground contamination have been identified offsite, from Plot 2 and 3, and within the surrounding area:

- Potential fuel tanks identified within Plot 3, in the historical data report from Envirocheck;
- An electricity sub-station in the south west corner of Plot 2;
- Current industrial land use to the south east of the site, including a commercial printers and depot on Pakenham Street; and
- Historic industrial land use in the area surrounding the site, with garages, an engineering works, and a clothing factory previously occupying land north of the site (present on maps 1953-1971), and a timber yard and builders yard south east of the site (present on historical maps 1874-1896).

Ground investigation works were designed to provide additional information on the potential risks identified within the Desk Study including the potential contaminant sources above, and to further refine the preliminary conceptual site model.

3. GROUND INVESTIGATION

3.1. Design

The ground investigation was designed by Ramboll and undertaken by Concept to investigate the ground and groundwater conditions at the site. The scope of the site investigation was determined based on the Geotechnical and Contaminated Land Desk Study (Ramboll, March 2018) and included soil sampling, ground gas and groundwater monitoring, and laboratory analysis of soils for potential contaminants.

The Factual Report (Concept, August 2018) is referenced as appropriate herein.

3.2. Ground Investigation Activities

The ground investigation was completed by Concept. All works completed are detailed in their Factual Report which should be read in conjunction with this Interpretative Report.

The ground investigation was undertaken in general accordance with:

- BS 5930 (2015) Code of Practice for Ground Investigation;
- BS 1377 (1990) Methods of test for soils for civil engineering purposes;
- BS 10175: 2011+A2:2017 (2011) Investigation of potentially contaminated sites;
- BS EN 1997-2:2007 (2007) Eurocode 7 – Geotechnical Design – Part 2 Ground Investigation and Testing;
- BS EN ISO 22475-1 (2006) Geotechnical Investigation and Testing – Sampling methods and groundwater measurements – Part 1 Technical principles for execution;

The ground investigation comprised the following items of fieldwork:

- Two cable percussive boreholes to a maximum depth of 60.00m;
- Two cable percussive boreholes with rotary follow on to 40.00m and 60.00m depth;
- Two trial pits undertaken at ground level to 1.50-4.00m depth;
- Five trial pits undertaken at basement level to 1.50m depth;
- Three window sample boreholes; two to a maximum of 15.00m depth and one to a maximum of 9.00m depth;
- Soil sampling for subsequent chemical and geotechnical laboratory analysis in accordance with BS 1377 (1990), UKAS ISO 17025 and MCERTS;
- In situ geotechnical testing (standard penetration testing and Pressuremeter testing);
- Installation of combined groundwater and ground gas monitoring standpipes within selected boreholes;
- Surveying of exploratory hole positions;
- Two rounds of groundwater monitoring and sampling;
- Six rounds of groundwater level dipping and ground gas monitoring; and
- Factual reporting.

The ground investigation was undertaken during May to July 2018. The investigation was supervised by Concept and exploratory holes were logged and sampled for subsequent laboratory chemical and/or geotechnical analyses by a qualified Concept engineer. The samples were scheduled for laboratory analysis by Ramboll.

Following completion, locations were installed with 50mm HDPE standpipes with targeted response zones within the Made Ground and London Clay formation as dictated by the ground conditions encountered. Targeted borehole locations were also installed with 19mm HDPE piezometers with tips at varying depths to build up a sub-surface pore water pressure profile. Two vibrating wire piezometer installations were installed within BH01, and one installed within BH03. Borehole installation details are summarised in Table 3.1 below.

Table 3-1: Borehole Installation Details

Exploratory Hole	Diameter of Installation (mm)	Type	Response Zone (m)	Response Zone Strata
WS03	50.00	SPG/GW	0.50 – 2.50	Made Ground
BH01	50.00	SPG/GW	0.50 – 1.50	Made Ground
	19.00	SPIE	9.50 – 12.00	London Clay
		VWP	18.50 (base)	London Clay
		VWP	46.00 (base)	Upper Chalk
BH02C	50.00	SPG/GW	14.00 – 15.10	London Clay
	19.00	SPIE	8.00 – 9.00	London Clay
BH03	50.00	SPG/GW	1.00 – 4.00	Made Ground
	19.00	SPIE	19.00 – 20.50	London Clay
		VWP	8.00 (base)	London Clay
BH04	50.00	SPGW	1.50 – 2.50	Made Ground
	19.00	SPIE	38.00 – 39.00	Lambeth Group

Notes:
SPG/GW – Gas/groundwater monitor standpipe
SPGW – Groundwater monitor standpipe
SPIE – Standpipe piezometer
VWP – Vibrating Wire Piezometer

3.3. Laboratory analysis - Environmental

Soil samples were scheduled by Ramboll for chemical analysis for a suite of potential contaminants based on the preliminary conceptual site model.

21 soil samples were analysed for a typical 'brownfield' suite of contaminants including heavy metals, pH, sulphate, polycyclic aromatic hydrocarbons (PAHs), cyanide, ammonium, phenols, total petroleum hydrocarbons (TPH) and asbestos (in all Made Ground samples).

4 soil samples were also analysed for semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs).

The results of the environmental laboratory analysis are provided in Appendix B.

3.4. Laboratory analysis - Geotechnical

Details of soil samples collected and scheduled for geotechnical analysis are provided in the Ground Investigation Report (Ramboll, September 2018). Geotechnical laboratory results are appended to the Factual Report produced by Concept.

3.5. Groundwater and Ground Gas Monitoring

Two rounds of groundwater monitoring were undertaken by Concept following the completion of the ground investigation and groundwater samples were taken from one well (BH02C) in which groundwater was encountered, and scheduled for laboratory analysis.

Six rounds of ground gas monitoring were undertaken by Concept, on the 10th August, 16th August, 21st August, 3rd September, 10th September and 17th September 2018. The results of the ground gas monitoring are attached to this report within Appendix C.

4. GROUND CONDITIONS

4.1. General Stratigraphy

The typical succession of strata across the site identified during the ground investigation is summarised in Table 4.1 below.

Table 4-1: Sequence of Strata Encountered During the Investigation

Stratum	Typical description	Level at top of Stratum (mAOD)	Thickness Range (m)
Made Ground	Hardstanding of asphalt and concrete paving. Orange brown and light grey sandy **GRAVEL** / gravelly **SAND**. Gravel is angular to subangular fine to coarse of flint, concrete, brick and occasional tile. Sand is fine to coarse. Loose to medium dense brown grey sandy occasionally clayey **GRAVEL** with low to medium brick and concrete cobble content. Gravel is angular to subangular fine to coarse of brick, concrete, clinker, slate and tile. Occasional pockets of brown sandy clay. Rare fragments of glass. Firm dark brown occasionally mottled grey and mottled yellow brown slightly gravelly slightly sandy **CLAY**. Gravel is angular to sub-rounded fine to coarse of brick, flint, tile, ceramic and rare slag. Occasional shell fragments. Brown gravelly **CLAY** with frequent pockets of silt and clayey sand. Gravel is subangular fine to coarse of brick, concrete and chert (underlying the lower level walkway and basement)	20.69 – 16.35	0.70 – 4.70
Alluvium	Firm greenish grey and light brown occasionally mottled bluish grey slightly sandy slightly gravelly **CLAY** with occasional orange brown discolouration and pockets of firm reddish brown clay. Gravel is angular to rounded fine to coarse of flint.	17.94 – 16.87	0.25 – 0.50
River Terrace Deposits	Medium dense yellow brown and orange brown sandy clayey to very clayey subangular fine to coarse **GRAVEL** of flint with occasional pockets of grey silty clay. Sand is fine to coarse.	18.06 – 17.54	0.70 – 2.00
Weathered London Clay	Firm, extremely closely fissured brown occasionally mottled bluish grey slightly micaceous slightly gravelly slightly sandy silty CLAY with rare pockets of orangish brown fine sand.	18.14 – 15.81	1.90 – 4.80
London Clay	Firm to stiff extremely closely fissured dark grey and brownish grey slightly micaceous slightly sandy silty **CLAY**.	14.94 – 12.43	12.70 – 15.70

Stratum	Typical description	Level at top of Stratum (mAOD)	Thickness Range (m)
Lambeth Group	Stiff to very stiff brown grey and blue grey silty **CLAY** with rare pockets of light grey silt (<20mm) (Reading Formation: Upper Mottled Beds) Stiff to very stiff dark grey and black silty **CLAY** with laminations of light grey and brown silt and fine sand (Woolwich Formation: Laminated Beds) Very stiff grey and light bluish grey occasionally mottled yellowish brown and locally purple silty **CLAY** (Reading Formation: Lower Mottled Beds) Very stiff dark grey to black sandy silty CLAY with occasional pockets of light grey fine sand (<35mm) and rare shell fragments (Reading Formation: Lower Mottled Beds Kings Cross Unit) Very stiff dark grey and green grey slight sandy slightly gravelly silty **CLAY** with pockets of light grey and light brown fine sand. Gravel is subrounded to well-rounded fine to coarse flint. (Upnor Formation)	0.01 – -0.76	18.80 – 20.30
Thanet Sands	Very dense grey and brown fine SAND with occasional pockets of dark grey clay (Thanet Sand) Very dense grey and brown clayey subangular to subrounded fine to coarse flint GRAVEL with low grey flint cobble content and rare pockets of green grey clay (<35mm) (Bullhead Beds)	-19.56 – -20.57	3.00 - 4.90
Chalk Formation	White CHALK recovered as gravelly SILT.	-22.99 – -24.46	Unproven

Notes:

mbgl = metres below ground level

mAOD = metres Above Ordnance Datum

* (Base of stratum not encountered)

4.2. Made Ground

Made Ground was encountered across the site with a thickness range of 0.70-4.70m, with a maximum thickness encountered at BH03 in the eastern car park. The type and thickness of Made Ground encountered varied across the site which is likely due to the current buildings being developed at different stages with a historic building in the east of the site (now the car park) being demolished prior to 1991, with any potential basement and underground structures backfilled.

WS01-WS03, BH03-BH04 and TP01/01A were undertaken in the eastern car par park where asphalt was encountered to depths of 0.05-0.20mbgl. Hardstanding was typically underlain by Made Ground described as orange brown and light grey sandy gravel / gravelly sand of flint, brick, concrete and occasional tile which was between 0.02-0.65m thick. This was underlain by loose to medium dense brown grey sandy occasionally clayey gravel with low to medium brick and concrete cobble content, and gravel of brick,

concrete, clinker, slate and tile. Made Ground in the car park was identified between 2.50-4.70m thick.

TP03, TP05 and TP07 were undertaken in the lower level walkway that surrounds the courtyard, and is located approximately 3.50m below ground level of the general area. TP07 was undertaken inside the basement of the New Wing, south of the courtyard. Made Ground was encountered to a maximum depth of 0.90m but was not proven. The ground surface was identified as concrete paving overlying a concrete slab, to 0.25mbgl which was underlain by Made Ground comprising brown gravelly clay with frequent pockets of silt and clayey sand, and gravel of brick, concrete and chert, between 0.35-0.60m thick. A concrete obstruction was also encountered in TP05 at a thickness of 0.1m.

4.3. Alluvium

Superficial deposits of Alluvium were identified in three locations directly underlying Made Ground, at WS02, WS03 and TP09, between 0.25-0.50m thick. The top of the Alluvium was encountered between 16.87-17.94mAOD. Alluvium was described in the logs as firm green grey and light brown occasionally mottled grey slightly sandy gravelly CLAY with occasional orange brown discolouration and pockets of firm red brown clay. Groundwater seepage was encountered at 1.40mbgl (16.57mAOD) within the Alluvium at TP09, east of the Levy Wing.

4.4. River Terrace Deposits – Hackney Gravels

Superficial River Terrace Deposits were identified at two locations at WS02 and BH02C, between 0.70-2.00m thick. The top of the River Terrace Deposits was encountered between 17.54-18.06mAOD. The River Terrace Deposits were described in the logs as medium dense yellow brown and orange brown sandy clayey to very clayey subangular fine to coarse GRAVEL of flint with occasional pockets of grey silty clay.

4.5. Solid Geology

London Clay was encountered underlying the Made Ground and superficial deposits as firm to stiff dark grey CLAY, with a thickness range of 15.80-18.90m. The Lambeth Group, comprising the Reading Formation, Woolwich Formation and Upnor Formation, was encountered underlying London Clay with a proven thickness of 18.80-20.30m at three locations.

4.6. Groundwater

Groundwater was not encountered during the ground investigation within the exploratory wells, however groundwater ingress was noted at the base of TP05 at 0.90mbgl (17.07mAOD) within Made Ground. Groundwater seepage was also encountered at TP09 at 1.40mbgl (16.57mAOD), within the superficial deposits of Alluvium.

Groundwater levels were measured during subsequent ground gas monitoring rounds; groundwater was only identified within BH02C, installed within the London Clay. Groundwater level monitoring records are presented in Appendix C. The results of the three rounds of groundwater level monitoring undertaken are summarised in Table 4.2 below. The groundwater in the standpipes was monitored using a dip meter, and the vibrating wires were monitored using a Geosense G200 Vibrating Wire Readout unit.

Table 4-2: Summary of Groundwater Depths

ID	Type	Screened Strata	Standpipe Response Zone (mbgl)	Depth to Groundwater (mbgl)	Groundwater level (m AOD)
BH01	SPG/GW	Made Ground	0.50 – 1.50	DRY	DRY
	SPIE	London Clay	9.50 – 12.00	10.17 – 11.66	9.97 – 8.48

ID	Type	Screened Strata	Standpipe Response Zone (mbgl)	Depth to Groundwater (mbgl)	Groundwater level (m AOD)
	VWP	London Clay	18.50 (base)	12.88 – 13.33	7.26 – 6.81
	VWP	Upper Chalk	46.00 (base)	45.91 – 45.95	-25.77 – -25.81
BH02C	SPIE	London Clay	8.00 – 9.00	DRY	DRY
	SPG/GW	London Clay	14.00 – 15.10	11.15 – 11.35	9.41 – 9.21
BH03	SPG/GW	Made Ground	1.00 – 4.00	DRY	DRY
	SPIE	London Clay	19.00 – 20.50	12.42 – 12.62	8.09 – 7.89
	VWP	London Clay	8.00 (base)	5.92 – 6.02	14.59 – 14.49
BH04	SPGW	Made Ground	1.50 – 2.50	2.48	17.95
	SPIE	Lambeth Group	38.00 – 39.00	37.21 – 38.09	-17.66 – -16.78
	VWP	Chalk	58.50 (base)	51.06 – 51.13	-30.63 – -30.70
WS03	SPG/GW	Made Ground	0.50 – 2.50	DRY	DRY

The wells screened within the Made Ground were found to be dry across the subsequent monitoring rounds, with the exception of BH04, where groundwater was encountered at 2.48mbgl on one occasion. On all other occasions the installation within Made Ground at BH04 was found to be dry.

Groundwater was identified within the exploratory wells installed within the London Clay. Within the gas and groundwater standpipes (SPG/GW and SPGW) and standpipe piezometers (SPIE) installed within the London Clay, groundwater was identified between 7.89mAOD and 9.97mAOD. The standpipe piezometer installed within the London Clay between 8.00-9.00mbgl at BH02C was found to be dry during all monitoring rounds.

Groundwater was identified in the standpipe piezometer installed within the Lambeth Group at BH04, with the groundwater level between -16.78mAOD and -17.66mAOD.

4.7. Visual and Olfactory Observations of Potential Contamination

During the ground investigation Concept identified potential asbestos containing material (ACM) within the Made Ground underlying the car park. Visible fragments of potential ACM were not encountered in any other areas during the ground investigation. The observations recorded by Concept in the logs are summarised below:

- Fragment of suspected asbestos cement tile encountered in BH03 at 0.30mbgl;
- Fragment of suspected asbestos cement tile in TP01 at 0.10mbgl;
- Fragment of suspected asbestos cement tile in TP01A at 0.10mbgl; and
- Fragment of suspected asbestos cement tile encountered in WS01 at 0.20mbgl, and fragment of suspected fibrous material at 3.40mbgl (described as 'fibreglass').

In addition to the potential ACM noted above, the following visual and/or olfactory evidence of potential contamination was also recorded during site works:

- Gravel of slag in BH04 between 1.20-3.20mbgl, and TP09 between 0.20-0.50mbgl;
- Fragments of clinker in OP01 between 0.25-0.75mbgl, WS01 between 0.10-1.20mbgl and 1.60-4.20mbgl, and WS03 between 0.14-0.42mbgl; and
- Rare fragments of slag in TP08 between 0.05-0.55mbgl and 0.55-1.00mbgl.

4.8. Belowground Structures and Obstructions

Obstructions and historical structures were encountered during the ground investigation, as outlined below:

- A concrete obstruction in TP05 between 0.60-0.70mbgl;
- Reinforced concrete with 5mm metal rebar mesh at BH02C between 0.10-0.40mbgl; and
- A large boulder of grey cement in TP09 at 0.90mbgl.

4.9. Ground Gas

Dual purpose ground gas and groundwater monitoring standpipes were installed in four locations, in BH01, BH02C, BH03 and WS03.

Six rounds of ground gas monitoring were undertaken by Concept, on the 10th August, 16th August, 21st August, 3rd September, 10th September and 17th September 2018. Ground gas monitoring sheets and the ground gas risk assessment can be found in Appendix C.

5. GROUND CONTAMINATION - GENERIC QUANTITATIVE RISK ASSESSMENT

This ground contamination assessment has been undertaken in accordance with the current UK framework and comprises a generic quantitative risk assessment (GQRA) as defined in CLR 11 (EA 2004). Further details of the UK legislative context are provided in Appendix D.

In order to assess the significance of the chemical concentrations reported, generic assessment criteria (GAC) must be selected based on the critical receptors identified at the site. Receptors are considered in relation to Human Health (*e.g.*, people using the site) and Controlled Waters (*e.g.*, groundwater and surface water resources). Additional receptors may also require consideration, *e.g.*, water supply pipes, building materials and flora/fauna, as appropriate to the site.

5.1. Human Health Assessment

5.1.1. Methodology

Details of the UK framework for human health risk assessment and GAC are provided in Appendix D.

Contaminant concentrations below the adopted GAC are considered not to warrant further risk assessment. Where any concentrations are recorded above the GAC consideration of the contaminant distribution is undertaken.

Current UK guidance is provided in the DEFRA/EA CLR framework which sets out standard land uses for which GAC are derived for individual contaminants: Residential with (and without) Consumption of Home-grown Produce, Allotments, and Commercial/Industrial use. In addition, two new land uses were added during the development of the Category 4 Screening Levels (C4SLs) by CL:AIRE/DEFRA in 2013/2014: Public Open Space 1 (Green space close to housing) and Public Open Space 2 (Green space not close to housing).

The site is intended to be redeveloped as the Institute of Neurology (IoN) / Dementia Research Institute (DRI) Hub, with no residential development included within the design proposals, and as such a Commercial land use scenario has been assumed.

5.1.2. Soil Screening Analysis

The soil analysis results are presented in comparison to the GAC in Appendix E. Table 5.1 below summarises the contaminants of concern identified at concentrations above the GAC in one or more samples.

Table 5-1: Summary of Elevated Chemical Concentrations in Soil

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
General Inorganics					
pH	<5, >9	-	21	12	12.10 (OP01 0.30m)
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene	76	mg/kg	21	1	85.00 (OP01 0.30m)
Benzo(b)fluoranthene	45	mg/kg	21	1	79.00 (OP01 0.30m)
Dibenz(ah)anthracene	3.5	mg/kg	21	1	12.00 (OP01 0.30m)

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
Asbestos in Soil					
Asbestos	-	%	21	9	0.30% w/w (WS01 0.20m)

NOTES

- GAC – commercial/industrial land use

5.1.3. Soil Contaminant Distribution Assessment

Identified impacts are considered further in relation to vertical and lateral distribution across the site and through statistical analysis, if considered appropriate.

pH

Soils across the site were identified as generally alkaline, with a pH ranging between 7.6 (BH02C 1.00m) and 12.1 (OP01 0.30m). Twelve of the twenty-one soil samples were identified as having a pH greater than 9.00, with the greatest exceedance encountered in Made Ground at OP01 (0.30m).

Polycyclic Aromatic Hydrocarbons (PAHs)

Benzo(a)pyrene, benzo(b)fluoranthene and dibenz(ah)anthracene were identified in the soil sample from OP01 (0.30m) at concentrations greater than GAC. Made Ground soils at this location were described in the logs as grey slightly clayey slightly sandy gravel of flint, brick, concrete and clinker. OP01 was located east of the car park at a lower elevation, with concrete hardstanding 0.25m thick. The exceedances were lower than one order of magnitude greater than GAC.

Asbestos

Asbestos was identified in Made Ground soils within nine samples, which were subsequently scheduled for quantification analysis. Three samples contained asbestos lower than the laboratory limits of detection (<0.001 w/w), at WS01 (0.70m) within the car park area, at OP01 (0.30m) east of the car park along the reduced level walkway, and at BH01 (0.50m) north of Plot 1, within the Calthorpe Project. The other six samples submitted for quantification were all identified as containing quantities of asbestos greater than the laboratory limits of detection, ranging from 0.002% at WS01 (0.50m) to a maximum 0.30% at WS01 (0.20m). These six samples were taken from Made Ground soils underlying the car park in the east of the site; the soils were generally described in the logs as brown grey sandy occasionally clayey and silty gravel of flint, brick, concrete, slate, clinker, ceramic, tile and rare glass. Made Ground in this area of the site was identified at a maximum depth of 4.50mbgl, and was potentially used to backfill the basement of the former building along the east of Plot 1, present on historical OS maps from 1895 – 1979.

Visible fragments of ACM were identified at four locations underlying the car park in the east of Plot 1, at TP01, TP01A, BH03 and WS01. Visible fragments of ACM were not encountered at other ground investigation locations. The visible fragments of ACM were double bagged and sealed, before being sent to the lab for bulk analysis and identification. A summary of the asbestos bulk identification is summarised in Table 5.2 below.

Table 5-2: Summary of Asbestos Bulk Identification

Sample	Asbestos Identification
WS01 (0.20m)	Chrysotile – Hard/cement type material
WS01 (3.40m)	Chrysotile – Insulation lagging

Sample	Asbestos Identification
TP01 (0.10m)	Chrysotile – Hard/cement type material
TP01A (0.10m)	Chrysotile – Hard/cement type material
BH03 (0.30m)	Chrysotile – Hard/cement type material

5.1.4. Soil Summary

The generic screening assessment has identified the following impacts which may present a risk to human health and building materials which require further consideration:

- Alkaline pH (maximum pH 12.10 at OP01 0.30m);
- Marginal exceedances of benzo(a)pyrene, benzo(b)fluoranthene and dibenz(ah)anthracene in sample OP01 (0.30m);
- Asbestos fibres identified in Made Ground soils (maximum quantity 0.30% w/w identified at WS01 0.20m);
- Visible fragments of asbestos in the east of the site, underlying the car park.

5.2. Waters Assessment

5.2.1. Methodology

Generic assessment criteria (GAC) for waters must be selected to assess potential risks to identified human health and environmental receptors.

The site is underlain by superficial River Terrace Deposits - Hackney Gravels (Secondary A Aquifer), London Clay (unproductive strata), the Lambeth Group (Secondary A Aquifer), Thanet Sands and Upper Chalk Formation (Principal Aquifers). The nearest Source Protection Zone is located approx. 520m north east of the site, and is a Zone II (outer protection zone).

The nearest surface water feature is the Claremont Square Reservoir over 700m from the site boundary and the River Thames approximately 1.75km south of the site at its nearest point.

The GAC used to assess the leaching and groundwater data are therefore:

- Minimum Reporting Values (MRV) for hazardous substances to assess potential risks to the groundwater resources and human health; and
- General quality of groundwater body.

5.2.2. Leachate Screening Analysis

Three samples of Made Ground were scheduled for leachate analysis, from WS03 (0.70m), BH02C (1.00m) and BH04 (0.50m).

The chemical analysis screening summary tables are included in Appendix E. Measured concentrations above the recommended GAC in one or more sample are summarised in Table 5.2.

Table 5-3: Summary of Elevated Chemical Concentrations in Leachate

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
General Inorganics					
Ammonium as NH_4	500	µg/l	3	1	720 (BH02C 1.00m)
Heavy Metals					

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
Antimony	5	µg/l	3	1	5.70 (BH04 0.50m)
Arsenic	7.5	µg/l	3	1	9.90 (BH02C 1.00m)
Lead	7.5	µg/l	3	3	14.00 (BH04 0.50m)
Mercury	0.01 (MRV)	µg/l	3	3	0.054 (BH04 0.50m)

Ammonium as NH_4

Leachable ammonium (as NH_4) was identified at a concentration exceeding GAC in one samples of Made Ground, from BH02C at 1.00m. Soils at this depth and location were described in the logs as brown gravelly silty fine to coarse sand, with gravel of flint and brick.

Heavy Metals

A minor exceedance of arsenic was identified in the leachate sample from BH02C at 1.00m, and a minor exceedance of antimony was identified in the leachate sample from BH04 at 0.50m. Both exceedances were lower than one order of magnitude greater than the respective GAC, and considered marginal.

Lead was identified in all three leachate samples exceeding GAC, with a maximum concentration of 14.00µg/l identified in the sample from BH04 at 0.50m. All exceedances were lower than one order of magnitude greater than GAC, and considered marginal.

Mercury was identified at concentrations greater than the minimum reporting value for hazardous substances (MRV) in all three leachate samples. The exceedances were lower than one order of magnitude greater than the MRV, and did not exceed the threshold value for mercury for the general quality of a groundwater body.

All of the leachate samples were taken from Made Ground soils underlying hardstanding, with no water strikes encountered during drilling. As such the probability of water infiltration and subsequent leaching and migration of contaminants present in soils is considered to be low in these locations.

5.2.3. Groundwater Screening Analysis

Groundwater samples were taken during two rounds of groundwater monitoring from BH02C, screened within the London Clay from 14.00-15.10mbgl; the remaining groundwater monitoring wells were found to be dry or with a volume of groundwater too small to sample. Full analytical results are presented in Appendix B.

The chemical analysis screening summary tables are presented in Appendix E. Measured concentrations above the recommended GAC in one or more sample are summarised in Table 5.4.

Both samples were scheduled for the Ramboll Suite F and TPH CWG in groundwater.

Table 5-4: Summary of Elevated Chemical Concentrations in Groundwater

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
General Inorganics					
Sulphate as SO_4	188	mg/l	2	2	1160 (BH02C Round 2)
Ammonium as NH_4	500	µg/l	2	2	860 (BH02C Round 1)
Heavy Metals					

Determinand	GAC	Units	No. of Samples	No. of Exceedances	Maximum
Boron	750	µg/l	2	2	1300 (BH02C Round 2)
Manganese	50	µg/l	2	2	80.00 (BH02C Round 2)
Selenium	7.5	µg/l	2	2	10.00 (BH02C Round 2)

Sulphate

Sulphate was identified at concentrations exceeding GAC in both groundwater samples from BH02C, with a maximum concentration of 1160mg/l recorded in the sample taken in Round 2.

The concentration of sulphate within the leachate sample taken from BH02C (1.00m) was below the GAC of 188mg/l, and elevated concentrations of sulphate were not identified in the leachate samples from WS03 (0.70m) and BH04 (0.50m). As sulphate was not identified at significantly elevated concentrations in any of the leachate samples, it is considered unlikely that the exceedance of sulphate in the groundwater sample represents an on-site source of contamination.

Ammonium was identified at concentrations exceeding GAC in both groundwater samples from BH02C, with a maximum concentration of 860mg/l recorded in the sample taken in Round 1. Ammonium was also identified in the leachate sample from Made Ground at BH02C (1.00m), at a concentration of 720µg/l, which exceeded GAC.

Heavy Metals

Boron, manganese and selenium were identified at concentrations exceeding their respective GAC in groundwater samples from BH02C across both rounds. The exceedances were lower than one order of magnitude greater than GAC and considered marginal in nature. No corresponding source of leachable boron, manganese and selenium was identified in the leachate analysis from the three samples of Made Ground, including the sample from BH02C (1.00m).

5.2.4. Controlled Waters Summary

The generic screening assessment has identified the following impacts which require further consideration:

- Leachable arsenic and lead within Made Ground soils;
- Leachable ammonium in Made Grounds at BH02C (1.00m), and exceedances of ammonium in groundwater samples from BH02C;
- Concentrations of sulphate in groundwater from BH02C that exceed GAC;
- Marginal exceedances of boron, manganese and selenium in groundwater from BH02C.

6. GROUND GAS RISK ASSESSMENT

6.1. Methodology

The gas regime at the site has been characterised using current UK guidance including BS 8485: 2015, CIRIA Report C665 (2007), and RSK/NHBC (2006).

Further details of the assessment methodology are provided in Appendix D.

6.2. Ground Gas Data

Six rounds of ground gas monitoring have been completed to date by Concept, on the 10th August, 16th August, 21st August, 3rd September, 10th September and 17th September 2018. The monitoring sheets are presented in Appendix C.

Carbon dioxide concentrations were all <5%, with a maximum concentration of 2.20% detected at BH01 on 16/08/18 and 10/09/18; methane was not detected in any of the six rounds. Flow rates of 0.00l/hr were identified during all six rounds. H_2S and CO were not detected. A maximum PID reading of 7ppm was detected at BH02C during Round 2 on 16/08/18.

6.3. Classification of Ground Gas Regime

The assessment presented in Table 6.1 below comprises a worst case assessment using maximum methane and carbon dioxide concentrations and maximum flow rates.

Table 6-1: Worst Case Ground Gas Monitoring Record

Borehole No.	Flow rate (l/hr)	CH_4 Peak Gas Concentration (% v/v)	CO_2 Peak Gas Concentration (% v/v)	GSV Worst case (l/hr)	Characteristic Situation (CIRIA C665)
Worst Case	0.10	0.00	2.20	0.0022	1

Notes

- Peak flow and concentrations used for GSV calculation.
- Negative and zero flow rates are assumed to be at the detection limit of 0.1 l/hr for calculation of GSV, as per guidance in CIRIA C665.

Characteristic Situations refer to which gas protective measures are required so as to ensure that the risks posed by the presence of CH_4 and CO_2 increase the redundancy within the protection system to ensure that the building is never exposed to unacceptable risk (CIRIA C665).

Based on the data obtained from the six rounds of ground gas monitoring undertaken to date, a worst case gas screening value of 0.0022 l/hr has been calculated, which corresponds to Characteristic Situation 1 (CS1) very low risk.

As such, ground gas protection measures are unlikely to be required.

7. GROUND CONTAMINATION – RISK EVALUATION

7.1. Conceptual Site Model

The information presented in the previous sections of this report have been collated and evaluated to refine the initial conceptual site model for the site.

7.1.1. Sources

The potential contamination sources are summarised in Table 7.1 based on the site investigation results.

Table 7-1: Potential Sources

Source	Comments
Soil impacts	• Alkaline pH (maximum pH 12.10 at OP01 0.30m); • Marginal exceedances of benzo(a)pyrene, benzo(b)fluoranthene and dibenz(ah)anthracene in sample OP01 (0.30m); • Asbestos fibres identified in Made Ground soils (maximum quantity 0.30% w/w identified at WS01 0.20m); and • Visible fragments of asbestos in the east of the site, underlying the car park.
Groundwater impacts	• Leachable arsenic and lead within Made Ground soils; • Leachable ammonium in Made Grounds at BH02C (1.00m), and exceedances of ammonium in groundwater samples from BH02C; • Concentrations of sulphate in groundwater from BH02C that exceed GAC; and • Marginal exceedances of boron, manganese and selenium in groundwater from BH02C.

There is also a potential risk of additional impacts between borehole locations and in areas not investigated to date due to site restrictions.

7.1.2. Receptors

The site-specific receptors that could potentially be affected by the contamination hazards are summarised in Table 7.2.

Table 7-2: Potential Receptors

Feature	Details
ON SITE	
Future site users	Proposed use: Institute of Neurology (IoN) / Dementia Research Institute (DRI) Hub for UCL.
Construction workers	Any workers coming in direct contact with soils; any workers working in confined spaces and excavations where ground gases could build-up.
Underlying aquifer	The site is underlain by superficial River Terrace Deposits (Hackney Gravels) which are classified as a Secondary A Aquifer, and a significant thickness of London Clay (15.80-18.90m) which is classified as unproductive strata. The Lambeth Group (Secondary A Aquifer), Thanet Sands and Upper Chalk Formation (Principal Aquifers) were encountered at depth.
Construction materials	Building materials used below ground, for example foundations and services.
Flora/fauna	The footprint of the proposed development will cover the majority of the site; however there is the potential for limited areas of soft landscaping

Feature	Details
	within the final design.
OFF SITE	
Adjacent site users	The site is situated in an area of mixed residential, commercial and industrial use. The Calthorpe Project is located to the north of the site, residential housing and a hall of residence (Frances Gardner House) to the east and south east, the Eastman Dental Institute (Plots 2 and 3) to the south and Gray's Inn Road along the western boundary. The buildings on Gray's Inn Road are predominantly a mix of commercial and residential properties.
Surface watercourses	The nearest surface water feature is Claremont Square, a covered reservoir, located approx. 700m north east of the subject site.

7.1.3. Pathways

In order for the contaminants identified in this site investigation to reach potential receptors, there has to be a viable pathway for the contaminant. Potential pathways were identified within the preliminary conceptual model and are discussed further in Table 7.3 below in relation to the identified source impacts and receptors identified.

Table 7-3: Potential Pathways

Receptor	Pathway	Comments
Human Health	Direct contact / dermal contact with contaminated soils Ingestion / inhalation of soils / dusts	Site development workers have the potential to come in direct contact with soils during site enabling works and construction activities. The use of Personal Protection Equipment (PPE) would mitigate the exposure to potential contaminants. Construction activities also have the potential to generate dust particulates which therefore presents an inhalation risk to construction workers and adjacent site users. Direct contact with contaminated soils will be very limited following development as the proposed building footprint will cover the majority of the site, with large volumes of Made Ground excavated and removed from site for the proposed basement. Therefore the risk posed by potentially contaminated Made Ground soils to future site users will be low. If included within the final design, soft landscaping areas could present a potential pathway that could impact future site users, should impacted Made Ground remain in-situ. If soft landscaping areas are limited to above ground planters, the potential for future site users to be exposed to contamination in site soils would be limited.
	Inhalation of dusts / loose fibres	Site development workers could potentially come into contact with asbestos impacted soils identified in the east of Plot 1 during enabling and excavation works. Loose fibres could be generated if ACMs are broken up during excavation and if soils are allowed to dry out. Inhalation of dusts will be very limited following development as the proposed building footprint and hardstanding will cover the majority of the site.
	Inhalation of hazardous vapours and ground gases	Future site users and site development workers have the potential to be affected by elevated concentrations of hazardous ground gases (CO_2/CH_4/CO/H_2S) which can migrate and accumulate in confined spaces such as excavations and basements. Site development workers and future site users could also be impacted by depleted levels of O_2.
Controlled	Leaching and	Potential for leaching will be limited after development, as the

Receptor	Pathway	Comments
waters (Secondary A Aquifers and Principal Aquifers)	migration of soil impacts to groundwater	proposed building footprint will cover the majority of the site. A significant proportion of Made Ground soils will be excavated and removed from the site during construction of the basement and various other belowground structures. As such, the potential for leaching in these areas will be significantly reduced as the potential contaminant source will be removed and infiltration of surface water prevented. The potential for leaching remains in any open and soft landscaped areas.
	Vertical migration of soil impacts to the Superficial Secondary A Aquifer and Principal Aquifer	Superficial River Terrace Deposits (Hackney Gravels) and Alluvium were identified directly underlying Made Ground in four locations, and could potentially be impacted by the vertical migration of leachate from any Made Ground remaining in-situ. A significant thickness of London Clay was identified (15.80-18.90m) during the ground investigation; as such it is considered unlikely that leachate within Made Ground would migrate vertically into the underlying Secondary A Aquifer (Lambeth Group) or Principal Aquifer (Thanet Sands and Upper Chalk Formation). However, piling could create preferential pathways for the downward migration of contaminants into underlying aquifers should the maximum depth of the pile penetrate the London Clay.
	Migration to surface water	The nearest surface watercourse is a reservoir approx. 700m north east of the site. Given the proximity of the surface water feature and the underlying geology of the site it is considered unlikely that surface waters would be at risk from contaminant migration.
Buildings and structures	Damage to building materials or services through direct contact with contaminants or through contaminant migration	Building materials and subsurface construction materials will come into direct contact with the underlying soils, from aggressive ground conditions, hydrocarbons and sulphates. Elevated pH values were identified in Made Ground soils across the site which has a potential impact on concrete.
Flora	Direct contact with impacted soils and root uptake	This will be very limited following development as the proposed development will cover the majority of the site, and large volumes of Made Ground will be excavated for the proposed basement. Limited areas of soft landscaping may be included within the development plans with hardstanding across the majority of the site. If soft landscaping areas are limited to above ground planters, flora will not come into contact with Made Ground soils.

7.2. Qualitative Risk Assessment

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed above. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways.

This qualitative hazard assessment has been undertaken in accordance with NHBC and Environment Agency, 2008. Further details of which are provided in Appendix D including definition of risk categories.

Table 7.4 summarises the pollutant linkages and risk ratings associated with the proposed development.

Table 7-4: Risk Assessment

Hazard / Pollutant	Pathway	Receptor	Potential Severity	Probability of Risk	Level of Risk
ACM in Made Ground soils	Dermal contact Inhalation / Ingestion of soils/dusts/free fibres	Site development workers	Severe	Likely	HIGH* - an Asbestos Management Plan (AMP) should be completed prior to site development work commences. Asbestos was identified as visible fragments in the east of Plot 1 and within Made Ground soils.
		Future site users	Severe	Unlikely	LOW
		Adjacent site users	Severe	Low	MODERATE / LOW
Localised marginal exceedance of PAHs in Made Ground at OP01	Dermal contact Ingestion of soils/dusts	Site development workers	Medium	Low	LOW / MODERATE*
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
Leachable arsenic and lead in Made Ground soils.	Direct contact Ingestion of soils/dusts	Site development workers	Medium	Unlikely	LOW
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
	Leaching and migration	Superficial Secondary A Aquifer (River Terrace Deposits)	Medium	Low	LOW / MODERATE
		Secondary A Aquifer (Lambeth Group) and Principal Aquifer (Thanet Sands and Upper Chalk Formation)	Medium	Unlikely	LOW
		Surface Water	Medium	Unlikely	LOW
Alkaline pH in Made Ground soils across the site	Dermal contact Ingestion of soils/dusts	Site development workers	Medium	Likely	MODERATE*
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
	Direct contact	Building Materials	Medium	Likely	MODERATE

Hazard / Pollutant	Pathway	Receptor	Potential Severity	Probability of Risk	Level of Risk
Localised impact of sulphate, ammonium, boron, manganese and selenium at BH02C in groundwater.	Dermal contact Ingestion	Site development workers	Medium	Low	LOW / MODERATE*
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
	Leaching and migration	Superficial Secondary A Aquifer (River Terrace Deposits)	Medium	Low	LOW / MODERATE
		Secondary A Aquifer (Lambeth Group) and Principal Aquifer (Thanet Sands and Upper Chalk Formation)	Medium	Low	LOW / MODERATE
		Surface Water	Medium	Unlikely	LOW
Potential additional impacts, *e.g.*, between borehole locations.	Direct contact Ingestion/inhalation of soils/dusts	Site development workers	Medium	Likely	MODERATE*
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
	Direct contact	Building Materials	Medium	Likely	MODERATE
	Leaching and migration	Superficial Secondary A Aquifer (River Terrace Deposits)	Medium	Low	LOW / MODERATE
		Secondary A Aquifer (Lambeth Group) and Principal Aquifer (Thanet Sands and Upper Chalk Formation)	Medium	Unlikely	LOW
		Surface Water	Medium	Unlikely	LOW

Notes:

Assessment completed assuming site in current condition. Should site levels be altered during development, a reassessment would be required

Assessment completed assuming no remediation/mitigation in place

Should the development proposals alter significantly a review of this risk assessment may be required. In particular if wider or new areas of landscaping / open areas are planned.

* Given the use of appropriate PPE and on-site health and safety precautions, risk to site development workers would be reduced to low.

8. WASTE CLASSIFICATION

8.1. Methodology

The assessment has been undertaken using available soil chemical data and HazWasteOnline, a web-based tool for classifying waste. The software utilises Environment Agency guidance and European regulations to classify samples in line with current requirements. Further details of the waste classification methodology are provided in Appendix D.

8.2. Soils Assessment

Twenty-one soil samples were taken during the ground investigation and scheduled for chemical analysis; eighteen of these were from Made Ground and three were from natural ground (River Terrace Deposits and London Clay). The analytical results were entered into HazWasteOnline to provide a waste classification. The HazWasteOnline output sheets are provided in Appendix F.

Eighteen of the samples were classified as 'non-hazardous' and three were classified as 'hazardous'; all of the samples classified as hazardous were taken from Made Ground soils. The following samples were classified as hazardous:

- OP01 (0.30m): Grey slightly clayey sandy GRAVEL with medium brick and concrete cobble content. Gravel is angular to subangular fine to coarse flint, brick, concrete and clinker;
- BH02C (2.00m): Medium dense brownish grey sandy very clayey GRAVEL. Gravel is angular to subrounded fine to coarse flint, brick, concrete and asphalt fragments; and
- TP05 (0.30-0.60m): Brown gravelly CLAY with frequent pockets of silt and clayey sand. Gravel is subangular to subrounded fine to coarse brick, concrete and chert.

The samples classified as 'hazardous' were not confined to a particular area but identified across the site, within the lower level walkway, the central courtyard and the walkway leading to Frances Gardner House.

All of the samples classified as hazardous exceeded the threshold value for pH and were identified as HP8 – Corrosive; pH values of 11.6, 11.7 and 12.1 were identified at OP01 (0.30m), BH02C (2.00m) and TP05 (0.30-0.60m) respectively.

The sample from OP01 (0.30m) was also classified as hazardous due to the concentration of TPH (C6-C40), with the hazard properties HP7 – carcinogenic, and HP11 - mutagenic.

8.3. Asbestos

Asbestos fibres were detected in nine of the eighteen Made Ground samples; seven of the samples were taken from Made Ground underlying the car park, one was taken from BH01 (0.50m) on land north of the site, and one was taken from OP01 (0.30m) adjacent to the walkway leading to Frances Gardner House. Quantification analysis identified a concentration lower than laboratory detection limits (<0.001% w/w) in the two samples that tested positive for asbestos outside of the car park area, from BH01 (0.50m) and OP01 (0.30m). Quantification analysis on the samples taken from the car park identified a maximum of 0.30% w/w in the samples from WS01 (0.20m), described as chrysotile hard/cement type material & loose fibrous debris.

The Hazardous Waste (England and Wales) Regulations 2005 requires that any waste having an asbestos (ACM) content greater than 0.1% weight/weight (w/w) be classified

as Hazardous Waste. Any waste with an asbestos content of less than 0.1% w/w can be classified as non-hazardous waste, unless there are other contaminants present which would make the waste hazardous. Additionally, if the waste contains fibres that are free and dispersed then the waste will be hazardous if the waste as whole contains 0.1% or more asbestos. Out of the nine samples positively identified for asbestos, two of the samples exceeded the 0.1% w/w threshold, from sample BH04 (0.50m) and WS01 (0.20m), quantified as 0.106% w/w and 0.30% w/w respectively.

Where the waste contains identifiable pieces of asbestos (i.e. any particle of a size than can be identified as potentially being asbestos by a competent person by the naked eye), then the asbestos must be assessed separately. The waste is hazardous if the concentration of asbestos in the pieces alone is 0.1%. Visible fragments of potential ACM were identified by Concept in Made Ground underlying the car park at the locations WS01, TP01, TP01A and BH03. These fragments were described as predominantly hard/cement type material. Fragments were double bagged, sealed and sent to the laboratory for bulk analysis, to determine if the fragment was ACM. A summary of the findings is included as Table 8.1 below.

Table 8-1: Summary of Bulk Analysis Undertaken on Visible Fragments of ACM

Sample	Asbestos Identification
WS01 (0.20m)	Chrysotile – Hard/cement type material
WS01 (3.40m)	Chrysotile – Insulation lagging
TP01 (0.10m)	Chrysotile – Hard/cement type material
TP01A (0.10m)	Chrysotile – Hard/cement type material
BH03 (0.30m)	Chrysotile – Hard/cement type material

Where the asbestos is deemed to be of a fibrous nature the Health and Safety Executive (HSE) require that the handling of the material is undertaken by a suitably licensed company. The Carriage of Dangerous Goods (etc.) Regulations 2009 (CDG2009) applies in this instance. One sample, identified at WS01 (3.40m), was identified by the lab as Chrysotile – Insulation Lagging, and described during the ground investigation as resembling 'fibreglass'. As such, any ground works in this area during the enabling and development phase must be undertaken by a suitably licensed company, with appropriate Health & Safety procedures put in place to mitigate the potential risk to human health.

Visible fragments of ACM were not encountered during the ground investigation at any locations outside of the car park, and the most significant depths of Made Ground were encountered in this area (max. 4.70m at BH03). It is considered likely that the impacted material was used as backfill for the former building that was located in this area, present on historical OS maps from 1895 – 1979, and later demolished.

8.4. Summary

The three samples classified as 'hazardous' by HazWaste online were not confined to a particular area but identified across the site, within the lower level walkway (TP05), the central courtyard (BH02C) and adjacent to the walkway leading to Frances Gardner House (OP01). All the soil samples classified as hazardous did so due to high pH (11.6-12.1), with the sample from OP01 (0.30m) also classified as hazardous due to the concentration of TPH (C6-C40). The soils were described in the logs as generally grey, brown and brown grey sandy clayey gravel / gravelly clay, with gravel of brick, concrete, flint, clinker and asphalt fragments (BH02C only).

The natural soils underlying the Made Ground comprising River Terrace Deposits (Hackney Gravels) and London Clay were classified as non-hazardous based on the

outcome of the HazWasteOnline assessment, and are likely to be suitable for disposal at an inert waste facility.

Asbestos fibres were detected in nine of the eighteen Made Ground samples; seven of the samples were taken from Made Ground underlying the car park, one was taken from BH01 (0.50m) on land north of the site, and one was taken from OP01 (0.30m) adjacent to the walkway leading to Frances Gardner House. Quantification analysis was undertaken on all samples that tested positive for asbestos; two of the samples exceeded the 0.1% w/w threshold for hazardous waste, at BH04 (0.50m) and WS01 (0.20m), quantified as 0.106% w/w and 0.30% w/w respectively. In isolation, the two samples reporting concentrations of asbestos >0.1% w/w are classified as hazardous waste, albeit the remainder of the samples beneath the car park are classified as non-hazardous based on the contaminants. As such, it is recommended that further characterisation of this material is undertaken following excavation of this material, and prior to disposal to finalise an appropriate disposal route.

Visible fragments of ACM were also identified in Made Ground underlying the car park, at TP01, TP01A, BH03 and WS01; bulk analysis identified four of the samples as Chrysotile – hard/cement type material, and one sample from WS01 (3.40m) identified as Chrysotile – insulation lagging. As such, the Health and Safety Executive (HSE) will require that the handling of the material is undertaken by a suitably licensed company. Any ground works in this area during the enabling and development phase must be undertaken with appropriate Health & Safety procedures put in place to mitigate the potential risk to human health, and an Asbestos Management Plan (AMP) in place. No visible fragments of ACM were identified elsewhere during the ground investigation and it is considered likely that the impacted material was used as backfill for the former building that was located in this area, present on historical OS maps from 1895 – 1979, and later demolished.

The classification of waste reported above must be confirmed by the receiving landfill prior to disposal, under Duty of Care. Any material to be disposed of as hazardous or inert must have WAC analysis provided to confirm appropriate class of landfill.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. Ground Contamination Identified

Table 9.1 below summarises the pollutant linkages required further consideration and potential remedial action.

Table 9-1: Significant Pollutant Linkages

Pollutant linkage	Additional Actions Required
ACM in Made Ground soils.	Asbestos was identified in nine samples of Made Ground, with a maximum quantity of 0.30% w/w identified in the sample from WS01 (0.20m), described as Chrysotile hard/cement type material and loose fibrous debris. Seven of the samples were taken from Made Ground underlying the car park, one from north of the site boundary at BH01 (0.50m) and one from the area adjacent to the walkway leading to Frances Gardner House at OP01 (0.30m). Quantification analysis undertaken on the samples from outside of the car park area identified concentrations lower than the laboratory limits of detection (<0.001% w/w). Quantification analysis undertaken on samples from the car park identified a maximum quantity of 0.30% w/w in the sample from WS01 (0.20m). Visible fragments of ACM were identified in Made Ground soils underlying the car park in four locations; bulk analysis confirmed that the material contained asbestos. It is considered likely that the impacted material was used as backfill for the former building that was located in this area, present on historical OS maps from 1895 – 1979. The impacted Made Ground is currently located underlying hardstanding of asphalt, however during the ground works for the enabling and construction phase the release of free fibres could occur during excavation and stockpiling of soils. Any ground works in this area during the enabling and development phase must be undertaken with appropriate Health & Safety procedures put in place to mitigate the potential risk to human health, and an Asbestos Management Plan (AMP) in place. Where the asbestos is deemed to be of a fibrous nature the Health and Safety Executive (HSE) require that the handling of the material is undertaken by a suitably licensed company. Any impacted material that is excavated and removed from site should be disposed of as 'hazardous', if it comprises visible fragments of ACM, or quantities greater than 0.10% w/w in soil. No Made Ground material impacted with asbestos is suitable for reuse in open areas of soft landscaping as part of the final development.
Localised marginal exceedance of PAHs in Made Ground at OP01	Large volumes of Made Ground will be excavated for the construction of the basement, and areas of soft landscaping are likely to be limited to above ground planters. As such it is considered unlikely that future site users or adjacent site users will come into contact with contaminated soils in the proposed development, unless open areas of soft landscaping are included. Risk management measures will be required for the protection of site development workers who will come into contact with soils during the enabling/construction phase. No Made Ground material is suitable for reuse in open areas of soft landscaping as part of the final development.
Leachable arsenic and lead in Made Ground soils.	Potential for leaching will be limited following development, as the proposed building footprint will cover the majority of the site, reducing the potential for infiltration. A large quantity of Made Ground soils will be excavated and removed from the site for the development of the

Pollutant linkage	Additional Actions Required
	basement and various below ground structures; there is the potential for small volumes of Made Ground in the east of Plot 1 to remain in-situ, in areas which will not fall within the basement footprint. The potential for leachate from Made Ground soils impacting the underlying Aquifers is therefore considered to be unlikely, as the majority of the potential source will be removed, and any Made Ground remaining in-situ is likely to be overlain by hardstanding, reducing the likelihood of infiltration. The potential for leaching remains in any open and soft landscaped areas however these are likely to be limited to above ground planters. Risk management measures will be required for the protection of site development workers who will come into contact with soils during the enabling/construction phase.
Alkaline pH in Made Ground soils across the site.	The impact of aggressive ground conditions on building materials is to be addressed in the Geotechnical Ground Investigation Report (Ramboll, September 2018) due to the potential impact on concrete/building materials. Risk management measures will be required for the protection of site development workers who will come into contact with soils during the enabling/construction phase.
Localised impact of sulphate, ammonium, boron, manganese and selenium at BH02C in groundwater.	Localised exceedances of sulphate, ammonium, boron, manganese and selenium were identified in groundwater at BH02C, which was screened within the London Clay from 14.00-15.10mbgl. Due to the significant thickness of London Clay identified underlying Plot 1 (15.80-18.90m), it is considered unlikely that perched groundwater will migrate into the underlying Secondary A Aquifer (Lambeth Group) or Principal Aquifers (Thanet Sands and Upper Chalk Formation). Piling could potentially introduce pathways for the downward migration of contaminants into the underlying aquifer. A Piling Risk Assessment may be required following the finalisation of the piling design, to assess the risk to the Secondary A Aquifer and Principal Aquifers at depth.
Potential additional impacts where site investigation access was restricted	Contingency for unidentified impacts required in the Remedial Strategy.

9.2. Ground Gas

Six rounds of ground gas monitoring have been undertaken by Concept. Based on the data received to date, an assessment of the ground gas regime has characterised the site as CS1 in accordance with CIRIA C665, which corresponds to 'very low risk'.

9.3. Waste Classification

Three samples were classified as 'hazardous' by HazWaste online, from TP05 (0.30-0.60m), BH02C (2.00m) and OP01 (0.30m). All the soil samples classified as hazardous did so due to high pH (11.6-12.1), with the sample from OP01 also classified as hazardous due to the concentration of TPH (C6-C40). The natural soils underlying the Made Ground comprising River Terrace Deposits (Hackney Gravels) and London Clay were classified as non-hazardous based on the outcome of the HazWasteOnline assessment, and are likely to be suitable for disposal at an inert waste facility. WAC analysis should be undertaken on soils prior to disposal, in order to determine the appropriate waste disposal facility for the arisings.

Asbestos fibres were detected in nine of the eighteen Made Ground samples; seven of the samples were taken from Made Ground underlying the car park, one was taken from BH01 (0.50m) on land north of the site, and one was taken from OP01 (0.30m) adjacent to the walkway leading to Frances Gardner House. Quantification analysis was undertaken on all samples that tested positive for asbestos; two of the samples exceeded the 0.1% w/w threshold for hazardous waste, at BH04 (0.50m) and WS01 (0.20m), quantified as 0.106% w/w and 0.30% w/w respectively. In isolation, the two samples reporting concentrations of asbestos >0.1% w/w are classified as hazardous waste, albeit the remainder of the samples beneath the car park are classified as non-hazardous based on the contaminants. As such, it is recommended that further characterisation of this material is undertaken following excavation of this material, and prior to disposal to finalise an appropriate disposal route.

Visible fragments of ACM were also identified in Made Ground underlying the car park, at TP01, TP01A, BH03 and WS01; bulk analysis identified four of the samples as Chrysotile – hard/cement type material, and one sample from WS01 (3.40m) identified as Chrysotile – insulation lagging. As such, the Health and Safety Executive (HSE) will require that the handling of the material is undertaken by a suitably licensed company. Any ground work in this area during the enabling and development phase must be undertaken with appropriate Health & Safety procedures put in place to mitigate the potential risk to human health, and an Asbestos Management Plan (AMP) in place. No visible fragments of ACM were identified elsewhere during the ground investigation, and it is considered likely that the impacted material was used as backfill for the former building that was located in this area, present on historical OS maps from 1895 – 1979, and later demolished.

The classification of waste reported above must be confirmed by the receiving landfill prior to disposal, under Duty of Care. Any material to be disposed of as hazardous or inert must have WAC analysis provided to confirm appropriate class of landfill.

9.4. Further Works

A Remedial Strategy document will be required to address all identified contamination and risk mitigation measures. An Environmental Management Plan (EMP) should be implemented in order to prevent construction work and future operations from giving rise to land contamination.

An Asbestos Management Plan (AMP) should be completed prior to the start of any enabling/development works, to address the risk posed by ACMs at the site.

A Piling Risk Assessment may be required following the finalisation of the piling design, to assess the risk to the Secondary A Aquifer and Principal Aquifers at depth.

Earthworks at the site are recommended to be undertaken in accordance with an appropriate Material Management Plan in accordance with the CL:AIRE, 2011 Waste Code of Practice.

Additional ground investigation, including soil sampling and subsequent chemical analysis, is likely to be required in order to identify the presence of any potential contamination in areas of the site not investigated to date due to obstructions and access restrictions.

The Remedial Strategy and material management plans will include details on, inter alia:

- Site specific details relating to contamination identified;
- A contingency for any additional impacts not yet identified which may be encountered during works including for consultation with an appropriately

qualified environmental consultant, stockpiling and additional chemical testing / assessment prior to re-use;

- Sampling and analysis requirements for waste classification of any materials to be disposed of off-site;
- Water supply pipe assessment using existing data; and
- Details of the information that will need to be collected and provided for the completion of the Environmental Verification Report, following completion of the project.

A part-time watching brief by an appropriately qualified Environmental Consultant is recommended throughout the development works. This will allow an independent verification report to be prepared which will be required after works are complete.

10. REFERENCES

BSI (2015) BS 5930:2015, Code of Practice for Ground Investigations.

BSI (2011) BS 10175:2011+A2:2017, Investigation of Potentially Contaminated Sites. Code of practice.

BSI (2007) BS EN 1997-2:2007 Eurocode 7. Geotechnical design. Ground investigation and testing.

BSI (2015) BS 8485:2015, Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.

BSI (2013) BS 8576:2013, Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds (VOCs)

CIRIA (2001) Contamination Land Risk Assessment: A Guide to Good Practice (C552).

CIRIA (2007) CIRIA Report C665 Assessing Risks Posed by Hazardous Ground Gases to Buildings.

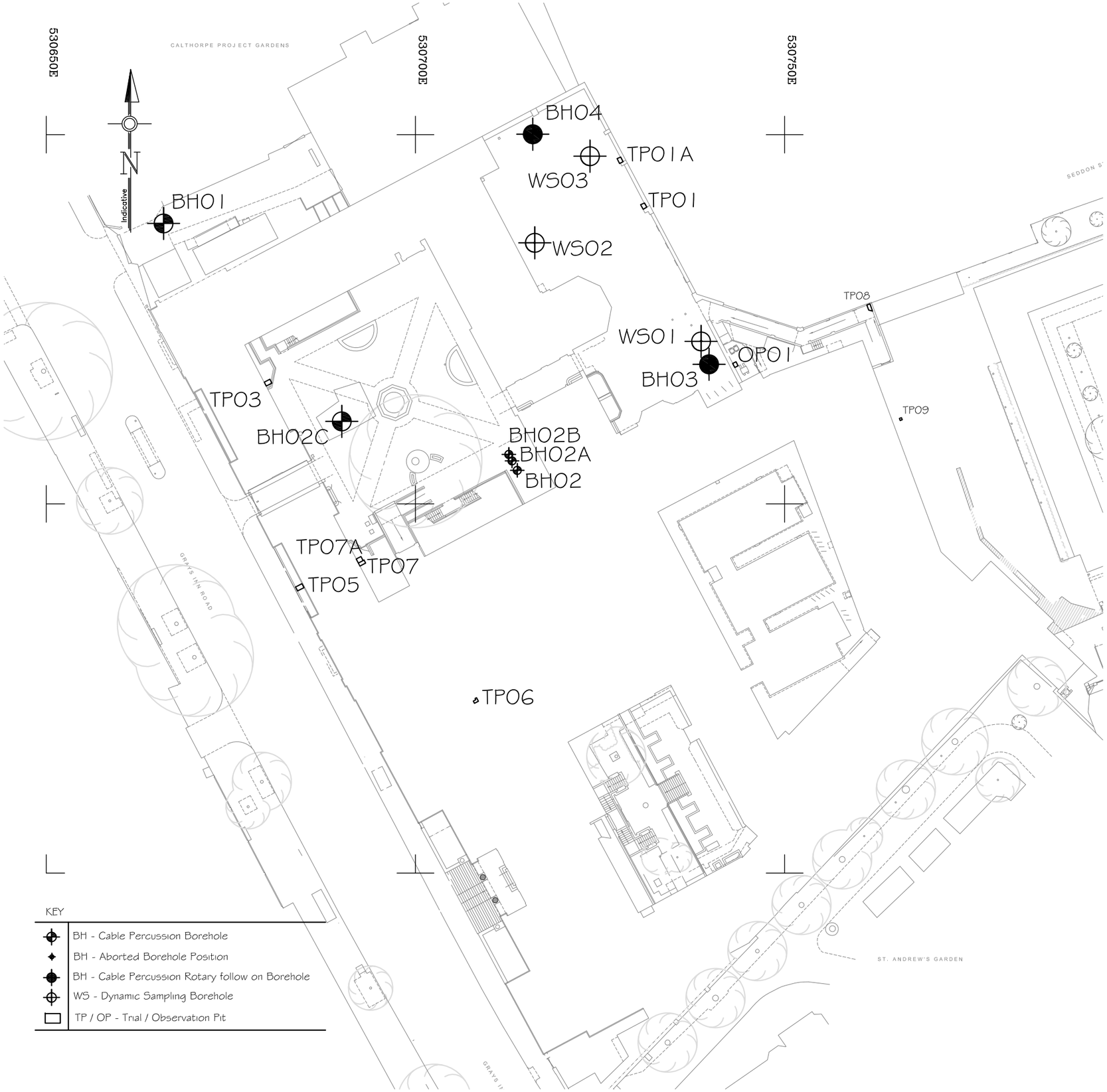
Environment Agency (2004) Model Procedures for the Management of Land Contamination. Contaminated Land Report 11 (CLR 11).

Health and Safety Executive (2012) Control of Asbestos Regulations.

NHBC and Environment Agency (2008) Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008.

Appendix A

Figures and Drawings



KEY

- BH - Cable Percussion Borehole
- BH - Aborted Borehole Position
- BH - Cable Percussion Rotary follow on Borehole
- WS - Dynamic Sampling Borehole
- TP / OP - Trial / Observation Pit

Hole ID	Easting	Northing	Level (mOD)
BH01	530665.82	182537.93	20.14
BH02	530713.76	182504.51	20.69
BH02A	530713.11	182505.78	20.64
BH02B	530712.66	182506.65	20.62
BH02C	530689.92	182511.26	20.56
BH03	530739.75	182518.84	20.51
BH04	530715.98	182550.00	20.43
WS01	530738.66	182521.99	20.44
WS02	530716.12	182535.35	20.44
WS03	530723.64	182546.98	20.45
TP01	530731.02	182540.75	20.55
	530730.50	182540.51	20.54
	530730.85	182539.90	20.53
	530731.35	182540.19	20.53
TP01A	530727.65	182546.09	20.52
	530727.31	182546.75	20.50
	530727.80	182546.97	20.52
	530728.12	182546.33	20.52
TP03	530679.80	182515.95	17.27
	530679.52	182516.48	17.27
	530680.56	182516.35	17.27
	530680.28	182516.88	17.27
TP05	530684.04	182488.21	16.60
	530683.76	182488.74	16.60
	530684.63	182489.19	16.60
	530684.91	182488.66	16.60
TP06	530707.99	182473.00	16.35
	530707.84	182473.30	16.35
	530708.17	182473.47	16.35
	530708.08	182473.65	16.35
	530708.27	182473.75	16.35
	530708.52	182473.28	16.35
TP07	530693.04	182492.40	16.72
	530692.27	182491.99	16.72
	530693.25	182491.99	16.72
	530692.48	182491.58	16.72
TP07A	530692.27	182491.99	16.72
	530691.98	182492.53	16.72
	530692.62	182492.87	16.72
	530692.91	182492.33	16.72
TP08	530761.55	182527.09	18.65
	530761.13	182526.93	18.65
	530761.39	182526.24	18.65
	530761.90	182526.11	18.65
TP09	530765.93	182511.39	17.97
	530765.65	182511.29	17.97
	530765.54	182511.57	17.97
	530765.83	182511.67	17.97
OP01	530743.41	182519.25	18.24
	530743.70	182518.70	18.24
	530743.24	182518.46	18.24
	530742.96	182519.01	18.24

NOTES

1. This drawing should not be scaled.
2. OP01, TP03, TP05, TP06, TP07, TP08 & TP09 are located at basement level.

No	Revision	Drawn	Checked	Passed	Date

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Client:	University College London
Project:	UCL ION / DRI
Title:	Exploratory Hole Location Plan
Dwg. No:	183113/01
Status:	Issue
Scale:	NTS

Drawn	Checked	Passed	Date
OS	IP	IP	September 18

Appendix B

ENVIRONMENTAL LABORATORY ANALYTICAL DATA

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Analytical Report Number : 18-96788

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	17/08/2018
Your job number:	18-3113	**Samples instructed on:**	17/08/2018
Your order number:	CL1536	**Analysis completed by:**	23/08/2018
Report Issue Number:	1	**Report issued on:**	23/08/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1536

Lab Sample Number				1025276				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				16/08/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.7				
Total Cyanide	µg/l	10	ISO 17025	24				
Sulphate as SO_4	µg/l	45	ISO 17025	947000				
Sulphate as SO_4	mg/l	0.045	ISO 17025	947				
Sulphide	µg/l	5	NONE	< 5.0				
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	670				
Ammonia as NH_3	µg/l	15	ISO 17025	810				
Ammonium as NH_4	µg/l	15	ISO 17025	860				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	4.32				
Hardness - Total	mgCaCO3/l	1	ISO 17025	749				
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Isopropylphenol	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				

Analytical Report Number: 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1536

Lab Sample Number				1025276				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				16/08/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Magnesium (dissolved)	mg/l	0.005	ISO 17025	84				
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.34				
Barium (dissolved)	µg/l	0.06	ISO 17025	13				
Boron (dissolved)	µg/l	10	ISO 17025	940				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04				
Calcium (dissolved)	mg/l	0.012	ISO 17025	160				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	1.6				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	84				
Manganese (dissolved)	µg/l	0.05	ISO 17025	68				
Mercury (dissolved) CV-AFS	ug/l	0.005	ISO 17025	< 0.0050				
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	13				
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.4				
Selenium (dissolved)	µg/l	0.6	ISO 17025	9.4				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.6				
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.4				
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH2 (C6 - C10)	µg/l	10	ISO 17025	< 10				
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Mercury Low Level (Dissolved) in Water	Dissolved mercury in water by CV-AFS, accredited matrices GW, SW, and PW.	In-house method based on USEPA method 1631	L085-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025

Analytical Report Number : 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH C6 - C40 (water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L070-PL	W	NONE
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-97498

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	22/08/2018
Your job number:	18-3113	**Samples instructed on:**	22/08/2018
Your order number:	CL1546	**Analysis completed by:**	30/08/2018
Report Issue Number:	1	**Report issued on:**	30/08/2018
Samples Analysed:	1 water sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-97498

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1546

Lab Sample Number				1029384				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				21/08/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.7				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO_4	µg/l	45	ISO 17025	1160000				
Sulphate as SO_4	mg/l	0.045	ISO 17025	1160				
Sulphide	µg/l	5	NONE	< 5.0				
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	600				
Ammonium as NH_4	µg/l	15	ISO 17025	770				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	5.00				
Hardness - Total	mgCaCO3/l	1	ISO 17025	913				
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Isopropylphenol	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16				

Analytical Report Number: 18-97498

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1546

Lab Sample Number				1029384				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				21/08/2018				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Magnesium (dissolved)	mg/l	0.005	ISO 17025	100				
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.0				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.63				
Barium (dissolved)	µg/l	0.06	ISO 17025	12				
Boron (dissolved)	µg/l	10	ISO 17025	1300				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Calcium (dissolved)	mg/l	0.012	ISO 17025	200				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	100				
Manganese (dissolved)	µg/l	0.05	ISO 17025	80				
Mercury (dissolved) CV-AFS	ug/l	0.005	ISO 17025	< 0.0050				
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	12				
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.9				
Selenium (dissolved)	µg/l	0.6	ISO 17025	10				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	2.7				
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.9				
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH2 (C6 - C10)	µg/l	10	ISO 17025	< 10				
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 18-97498

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Mercury Low Level (Dissolved) in Water	Dissolved mercury in water by CV-AFS, accredited matrices GW, SW, and PW.	In-house method based on USEPA method 1631	L085-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
TPH C6 - C40 (water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L070-PL	W	NONE

Analytical Report Number : 18-97498

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Waters)	Determination of hydrocarbons C6-C10 by headspace GC-MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number : 18-86953

Project / Site name:	Eastman Dental Institute- 256 Grays Inn Road	**Samples received on:**	24/05/2018
Your job number:	18-3113	**Samples instructed on:**	29/05/2018
Your order number:	CL1451	**Analysis completed by:**	05/06/2018
Report Issue Number:	1	**Report issued on:**	05/06/2018
Samples Analysed:	1 leachate sample - 3 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1451

Lab Sample Number				969553	969554	969555		
Sample Reference				WS03	WS03	WS03		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.70	3.15-3.50		
Date Sampled				23/05/2018	23/05/2018	23/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	9.8	15	16		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	-		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.012	< 0.001	-		
Asbestos Quantification Total	%	0.001	ISO 17025	0.012	< 0.001	-		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.8	8.5	8.1		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.097	0.13	0.11		
Sulphide	mg/kg	1	MCERTS	2.9	< 1.0	< 1.0		
Total Sulphur	%	0.005	MCERTS	0.104	0.057	0.010		
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5		
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5		
Organic Matter	%	0.1	MCERTS	0.9	1.7	0.3		
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20	< 0.20		
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3	< 1.3		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	1.0	< 0.05	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	1.0	< 0.05	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.63	< 0.05	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	0.45	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.71	< 0.05	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.36	< 0.05	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.58	< 0.05	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.30	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.39	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.49	< 0.80	< 0.80		

Analytical Report Number: 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1451

Lab Sample Number				969553	969554	969555		
Sample Reference				WS03	WS03	WS03		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.70	3.15-3.50		
Date Sampled				23/05/2018	23/05/2018	23/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	9.7	3.5	1.8		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	17	15		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	570	140	78		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	1.9	1.2		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	23	41		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	140	75	25		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	900	570	14		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	320	330	230		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	2.1	< 0.3		
Mercury (aqua regia extractable)	mg/kg	0.001	NONE	-	-	0.030		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.51	0.75	0.83		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	21	56		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	43	46	67		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	340	93	57		
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	-		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-		
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	97	< 10	< 10		
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	97	< 10	< 10		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	-		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	30	< 8.0	-		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	30	< 10	-		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	-		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	59	< 10	-		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	67	< 10	-		

Analytical Report Number: 18-86953
Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1451

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
969553	WS03	0.20	157	Loose Fibres & Loose Fibrous Debris & Bitumen	**Chrysotile**	0.012	**0.012**
969554	WS03	0.70	131	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Your Order No: CL1451

Lab Sample Number				969556				
Sample Reference				WS03				
Sample Number				None Supplied				
Depth (m)				0.70				
Date Sampled				23/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.7				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO_4	mg/l	0.1	ISO 17025	30.2				
Sulphide	µg/l	5	NONE	< 5.0				
Ammoniacal Nitrogen as N	µg/l	15	NONE	< 15				
Ammonium as NH_4	µg/l	15	NONE	< 15				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	4.89				
Hardness - Total	mgCaCO3/l	1	NONE	42.4				
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Isopropylphenol	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				

Analytical Report Number: 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Your Order No: CL1451

Lab Sample Number				969556				
Sample Reference				WS03				
Sample Number				None Supplied				
Depth (m)				0.70				
Date Sampled				23/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7				
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1				
Barium (dissolved)	µg/l	0.05	ISO 17025	12				
Boron (dissolved)	µg/l	10	ISO 17025	43				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Calcium (dissolved)	mg/l	0.012	ISO 17025	16				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.3				
Copper (dissolved)	µg/l	0.7	ISO 17025	8.5				
Lead (dissolved)	µg/l	1	ISO 17025	9.4				
Manganese (dissolved)	µg/l	0.06	ISO 17025	5.5				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.65				
Mercury - CV-AFS	ug/l	0.007	ISO 17025	0.0462				
Molybdenum (dissolved)	µg/l	0.4	ISO 17025	9.7				
Nickel (dissolved)	µg/l	0.3	ISO 17025	< 0.3				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	6.3				
Zinc (dissolved)	µg/l	0.4	ISO 17025	7.0				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH2 (C6 - C10)	µg/l	10	NONE	< 10				
TPH C6 - C40	ug/l	10	NONE	< 10				

Analytical Report Number : 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
969553	WS03	None Supplied	0.20	Brown sand with rubble and clinker
969554	WS03	None Supplied	0.70	Brown loam and clay with rubble and brick.
969555	WS03	None Supplied	3.15-3.50	Brown clay.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L023-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS,	In-house method based on USEPA method 1631	L085-PL	W	ISO 17025
Mercury Low Level in Soil (aqua regia extractable)	Mercury in soil by CV-AFS	In-house method based on USEPA method 1631	L085-PL	D	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS

Analytical Report Number : 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in leachate, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of leachates	Determination of hardness in leachates by calculation from calcium and magnesium.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	NONE
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS

Analytical Report Number : 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH C6 - C40 (leachate)	Determination of TPH in leachate by HS-GC-MS and GC-MS	In-house method	L070-PL	W	NONE
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Leachates)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-87020

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	25/05/2018
Your job number:	18-3113	**Samples instructed on:**	30/05/2018
Your order number:	CL1455	**Analysis completed by:**	05/06/2018
Report Issue Number:	1	**Report issued on:**	05/06/2018
Samples Analysed:	2 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-87020

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1455

Lab Sample Number				969980	969981			
Sample Reference				WS02	WS02			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.70	2.15			
Date Sampled				24/05/2018	24/05/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	11	13			
Total mass of sample received	kg	0.001	NONE	2.0	2.0			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	8.2			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.041	0.37			
Sulphide	mg/kg	1	MCERTS	2.1	86			
Total Sulphur	%	0.005	MCERTS	0.032	0.249			
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	6.0			
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	6.3			
Organic Matter	%	0.1	MCERTS	1.5	2.5			
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20			
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80			

Analytical Report Number: 18-87020

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1455

Lab Sample Number				969980	969981			
Sample Reference				WS02	WS02			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.70	2.15			
Date Sampled				24/05/2018	24/05/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.4	1.3			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	8.2			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	63	71			
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	2.1			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	15			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	83	36			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	480	84			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	220	130			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.9	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.81	0.75			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	11			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	33			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	52	35			
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	< 10	42			
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	< 10	42			
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	14			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	18			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	42			

Analytical Report Number : 18-87020

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
969980	WS02	None Supplied	0.70	Brown sand with rubble and brick.
969981	WS02	None Supplied	2.15	Grey clay and sand with gravel.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-87020

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 18-87020

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-87157

Project / Site name:	Eastman Dental Institute- 256 Grays Inn Road	**Samples received on:**	30/05/2018
Your job number:	18-3113	**Samples instructed on:**	31/05/2018
Your order number:	CL1456	**Analysis completed by:**	06/06/2018
Report Issue Number:	1	**Report issued on:**	06/06/2018
Samples Analysed:	2 bulk samples - 3 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	13	11	12		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	1.4		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.300	0.002	0.069		
Asbestos Quantification Total	%	0.001	ISO 17025	0.300	0.002	0.069		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.7	10.8	9.0		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.29	0.71	1.7		
Sulphide	mg/kg	1	MCERTS	< 1.0	4.0	17		
Total Sulphur	%	0.005	MCERTS	0.144	0.191	0.812		
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	< 0.5	0.6		
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	0.6		
Organic Matter	%	0.1	MCERTS	1.8	0.5	2.3		
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20	< 0.20		
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3	< 1.3		

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	0.91	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	0.51	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	1.9	0.23	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	0.88	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	5.2	0.69	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	4.8	0.64	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8	0.31	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	2.2	0.37	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.1	0.53	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.3	0.19	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.3	0.33	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	29.1	3.29	< 0.80		
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	18	8.7	6.0		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	10	15		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	540	360	330		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.4	2.4	1.2		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	21	32		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	61	25	25		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	590	240	230		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	360	230	220		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	1.2	7.8		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.80	0.40	0.92		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	14	20		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	40	32	53		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	560	330	460		

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	170	160	1100		
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	170	160	1100		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	4.0	8.3		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	17	65		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	50	79	360		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	56	100	440		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	3.2		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	26	14	67		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	74	48	540		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	100	62	610		

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chloroethane	µg/kg	1	NONE	-	< 1.0	-		
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-		
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-		
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-		
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
Benzene	µg/kg	1	MCERTS	-	< 1.0	-		
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-		
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Toluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
Styrene	µg/kg	1	MCERTS	-	< 1.0	-		
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-		
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-		
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-		
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-		
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-		
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-		
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-		
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Phenanthrene	mg/kg	0.05	MCERTS	-	0.23	-		
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-		
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-		
Fluoranthene	mg/kg	0.05	MCERTS	-	0.69	-		
Pyrene	mg/kg	0.05	MCERTS	-	0.64	-		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.31	-		
Chrysene	mg/kg	0.05	MCERTS	-	0.37	-		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.53	-		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.19	-		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.33	-		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	-		

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Lab Sample Number				970902	970903	970904		
Sample Reference				WS01	WS01	WS01		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.50	3.10		
Date Sampled				25/05/2018	25/05/2018	25/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

Analytical Report Number: 18-87157
Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1456

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
970902	WS01	0.20	146	Hard/Cement Type Material & Loose Fibrous Debris	**Chrysotile**	0.300	**0.300**
970903	WS01	0.50	167	Hard/Cement Type Material	**Chrysotile**	0.002	**0.002**
970904	WS01	3.10	160	Loose Fibrous Debris	**Chrysotile**	0.069	**0.069**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Lab Sample Number				970905	970906			
Sample Reference				WS01	WS01			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.20	3.40			
Date Sampled				25/05/2018	25/05/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material	Chrysotile-Insulation Lagging			

Analytical Report Number : 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
970902	WS01	None Supplied	0.20	Brown loam and sand with rubble and gravel
970903	WS01	None Supplied	0.50	Light brown loam and sand with rubble and brick.
970904	WS01	None Supplied	3.10	Brown rubble.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

Analytical Report Number : 18-87157

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-87323

Project / Site name:	Eastman Dental Institute, 256 Grays Inn Road	**Samples received on:**	31/05/2018
Your job number:	18-3113	**Samples instructed on:**	31/05/2018
Your order number:	CL1457	**Analysis completed by:**	07/06/2018
Report Issue Number:	1	**Report issued on:**	07/06/2018
Samples Analysed:	1 soil sample - 1 bulk sample		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road
Your Order No: CL1457

Lab Sample Number				971897				
Sample Reference				OP01				
Sample Number				None Supplied				
Depth (m)				0.30				
Date Sampled				30/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	6.1				
Total mass of sample received	kg	0.001	NONE	1.6				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001				
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	12.1				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	MCERTS	< 1				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013				
Sulphide	mg/kg	1	MCERTS	11				
Total Sulphur	mg/kg	50	MCERTS	1800				
Ammonia as NH_3	mg/kg	0.5	MCERTS	1.1				
Ammonium as NH_4	mg/kg	0.5	MCERTS	1.1				
Organic Matter	%	0.1	MCERTS	2.9				
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10				
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10				
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30				
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20				
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10				
Phenol	mg/kg	0.1	ISO 17025	< 0.10				
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10				
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30				
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	2.3				
Acenaphthene	mg/kg	0.05	MCERTS	8.1				
Fluorene	mg/kg	0.05	MCERTS	8.3				
Phenanthrene	mg/kg	0.05	MCERTS	160				
Anthracene	mg/kg	0.05	MCERTS	48				
Fluoranthene	mg/kg	0.05	MCERTS	260				
Pyrene	mg/kg	0.05	MCERTS	220				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	110				
Chrysene	mg/kg	0.05	MCERTS	82				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	79				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	60				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	85				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	45				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	12				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	46				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1220				

Analytical Report Number: 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road
Your Order No: CL1457

Lab Sample Number				971897				
Sample Reference				OP01				
Sample Number				None Supplied				
Depth (m)				0.30				
Date Sampled				30/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4.6				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	190				
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.1				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	43				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	270				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.85				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	240				
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	4400				
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	4400				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	15				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	39				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	150				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	200				
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	25				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	140				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	1300				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	2400				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	3900				

Analytical Report Number: 18-87323
Project / Site name: Eastman Dental Institute, 256 Grays Inn Road
Your Order No: CL1457

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
971897	OP01	0.30	150	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road

Lab Sample Number				971896				
Sample Reference				TP01				
Sample Number				None Supplied				
Depth (m)				0.10				
Date Sampled				29/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material				

Analytical Report Number : 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
971897	OP01	None Supplied	0.30	Brown sandy clay with rubble.

Analytical Report Number : 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS

Analytical Report Number : 18-87323

Project / Site name: Eastman Dental Institute, 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-87658

Project / Site name:	Eastman Dental Institute- 256 Grays Inn Road	**Samples received on:**	31/05/2018
Your job number:	18-3113	**Samples instructed on:**	04/06/2018
Your order number:	CL1461	**Analysis completed by:**	11/06/2018
Report Issue Number:	1	**Report issued on:**	11/06/2018
Samples Analysed:	1 bulk sample - 1 leachate sample - 3 soil samples		

Signed:

Rexona Rahman
Head of Customer Services
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1461

Lab Sample Number				973689	973690	973691		
Sample Reference				BH02C	BH02C	BH02C		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	2.00	2.50		
Date Sampled				30/05/2018	31/05/2018	31/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	6.3	9.9	8.6		
Total mass of sample received	kg	0.001	NONE	1.4	1.4	1.4		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.6	11.6	8.7		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.10	0.12	0.095		
Sulphide	mg/kg	1	MCERTS	4.4	3.1	< 1.0		
Total Sulphur	%	0.005	MCERTS	0.043	0.093	0.016		
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	2.1	< 0.5		
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	2.2	0.5		
Organic Matter	%	0.1	MCERTS	3.5	2.1	0.7		
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20	< 0.20		
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3	< 1.3		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80		

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1461

Lab Sample Number				973689	973690	973691		
Sample Reference				BH02C	BH02C	BH02C		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	2.00	2.50		
Date Sampled				30/05/2018	31/05/2018	31/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.7	2.0	1.7		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	17	13		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	240	260	44		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	0.5	0.8		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	17	18		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	80	59	20		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1300	550	150		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	200	280	290		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.8	1.3	0.5		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	1.6	1.8	2.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	17	16		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37	32	27		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	81	87	25		
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	< 10	440	170		
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	< 10	440	170		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	7.3	2.7		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	17	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	150	69		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	170	79		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	1.9	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	6.8	2.8		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	18	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	170	52		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	190	64		

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1461

Lab Sample Number				973689	973690	973691		
Sample Reference				BH02C	BH02C	BH02C		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	2.00	2.50		
Date Sampled				30/05/2018	31/05/2018	31/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chloroethane	µg/kg	1	NONE	-	< 1.0	-		
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-		
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-		
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-		
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
Benzene	µg/kg	1	MCERTS	-	< 1.0	-		
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-		
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Toluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
Styrene	µg/kg	1	MCERTS	-	< 1.0	-		
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-		
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1461

Lab Sample Number				973689	973690	973691		
Sample Reference				BH02C	BH02C	BH02C		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	2.00	2.50		
Date Sampled				30/05/2018	31/05/2018	31/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-		
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-		
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-		
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-		
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-		
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-		
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Phenanthrene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-		
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-		
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	-		

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1461

Lab Sample Number				973689	973690	973691		
Sample Reference				BH02C	BH02C	BH02C		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				1.00	2.00	2.50		
Date Sampled				30/05/2018	31/05/2018	31/05/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Your Order No: CL1461

Lab Sample Number				973693				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				30/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.7				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO_4	mg/l	0.1	ISO 17025	12.6				
Sulphide	µg/l	5	NONE	< 5.0				
Ammoniacal Nitrogen as N	µg/l	15	NONE	560				
Ammonium as NH_4	µg/l	15	NONE	720				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	7.10				
Hardness - Total	mgCaCO3/l	1	NONE	31.2				
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Isopropylphenol	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Your Order No: CL1461

Lab Sample Number				973693				
Sample Reference				BH02C				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				30/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7				
Arsenic (dissolved)	µg/l	1.1	ISO 17025	9.9				
Barium (dissolved)	µg/l	0.05	ISO 17025	5.4				
Boron (dissolved)	µg/l	10	ISO 17025	< 10				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	12				
Lead (dissolved)	µg/l	1	ISO 17025	11				
Manganese (dissolved)	µg/l	0.06	ISO 17025	2.5				
Mercury - CV-AFS	ug/l	0.007	ISO 17025	0.0240				
Molybdenum (dissolved)	µg/l	0.4	ISO 17025	5.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.4				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	11				
Zinc (dissolved)	µg/l	0.4	ISO 17025	3.8				
Calcium (dissolved)	mg/l	0.012	ISO 17025	12				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.33				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH2 (C6 - C10)	µg/l	10	NONE	< 10				
TPH C6 - C40	ug/l	10	NONE	< 10				

Analytical Report Number: 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Lab Sample Number				973692				
Sample Reference				TP01A				
Sample Number				None Supplied				
Depth (m)				0.10				
Date Sampled				31/05/2018				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material				

Analytical Report Number : 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
973689	BH02C	None Supplied	1.00	Brown sand with gravel.
973690	BH02C	None Supplied	2.00	Brown sand with gravel.
973691	BH02C	None Supplied	2.50	Brown clay and sand with gravel.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L023-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS,	In-house method based on USEPA method 1631	L085-PL	W	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE

Analytical Report Number : 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in leachate, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of leachates	Determination of hardness in leachates by calculation from calcium and magnesium.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	NONE
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS

Analytical Report Number : 18-87658

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH C6 - C40 (leachate)	Determination of TPH in leachate by HS-GC-MS and GC-MS	In-house method	L070-PL	W	NONE
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Leachates)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-89111

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	13/06/2018
Your job number:	18-3113	**Samples instructed on:**	14/06/2018
Your order number:	CL1475	**Analysis completed by:**	21/06/2018
Report Issue Number:	1	**Report issued on:**	21/06/2018
Samples Analysed:	1 soil sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-89111

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1475

Lab Sample Number				982312				
Sample Reference				TP05				
Sample Number				None Supplied				
Depth (m)				0.30-0.60				
Date Sampled				12/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	13				
Total mass of sample received	kg	0.001	NONE	1.7				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	11.7				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	MCERTS	< 1				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.063				
Sulphide	mg/kg	1	MCERTS	9.0				
Total Sulphur	%	0.005	MCERTS	0.710				
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5				
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5				
Organic Matter	%	0.1	MCERTS	0.7				
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10				
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10				
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30				
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20				
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10				
Phenol	mg/kg	0.1	ISO 17025	< 0.10				
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10				
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30				
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	2.1				
Anthracene	mg/kg	0.05	MCERTS	0.26				
Fluoranthene	mg/kg	0.05	MCERTS	6.3				
Pyrene	mg/kg	0.05	MCERTS	5.0				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.8				
Chrysene	mg/kg	0.05	MCERTS	2.8				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.2				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.2				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.4				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.43				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.7				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	29.5				

Analytical Report Number: 18-89111

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1475

Lab Sample Number				982312				
Sample Reference				TP05				
Sample Number				None Supplied				
Depth (m)				0.30-0.60				
Date Sampled				12/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130				
Boron (water soluble)	mg/kg	0.2	MCERTS	5.2				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	270				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	300				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.42				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	43				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	51				
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	70				
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	70				
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	16				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	46				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	62				

Analytical Report Number : 18-89111

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
982312	TP05	None Supplied	0.30-0.60	Light grey gravelly sand.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-89111

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 18-89111

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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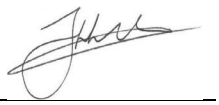
Analytical Report Number : 18-89114

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	12/06/2018
Your job number:	18-3113	**Samples instructed on:**	14/06/2018
Your order number:	CL1474	**Analysis completed by:**	21/06/2018
Report Issue Number:	1	**Report issued on:**	21/06/2018
Samples Analysed:	2 soil samples		

Signed: 

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1474

Lab Sample Number				982323	982324			
Sample Reference				TP07	TP03			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.20-0.50	0.30-0.60			
Date Sampled				11/06/2018	11/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	23	20			
Total mass of sample received	kg	0.001	NONE	2.0	2.0			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	9.4	8.9			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.067	0.15			
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0			
Total Sulphur	%	0.005	MCERTS	0.077	0.032			
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Organic Matter	%	0.1	MCERTS	0.7	0.6			
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20			
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80			

Analytical Report Number: 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1474

Lab Sample Number				982323	982324			
Sample Reference				TP07	TP03			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.20-0.50	0.30-0.60			
Date Sampled				11/06/2018	11/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1.6	1.9			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	11			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	58	87			
Boron (water soluble)	mg/kg	0.2	MCERTS	2.4	1.3			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	37	46			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	32			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	49	24			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	340	390			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	< 0.25	< 0.25			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	38	37			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.7			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	62	68			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	75	79			
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	< 10	< 10			
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10			

Analytical Report Number: 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1474

Lab Sample Number				982323	982324			
Sample Reference				TP07	TP03			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.20-0.50	0.30-0.60			
Date Sampled				11/06/2018	11/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	-			
Chloroethane	µg/kg	1	NONE	< 1.0	-			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-			
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-			
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-			
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-			
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-			
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	-			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-			
Benzene	µg/kg	1	MCERTS	< 1.0	-			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-			
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	-			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-			
Toluene	µg/kg	1	MCERTS	< 1.0	-			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-			
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-			
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	-			
Styrene	µg/kg	1	MCERTS	< 1.0	-			
Tribromomethane	µg/kg	1	NONE	< 1.0	-			
o-Xylene	µg/kg	1	MCERTS	< 1.0	-			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-			
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	-			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-			
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-			
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-			
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-			
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-			
Butylbenzene	µg/kg	1	MCERTS	< 1.0	-			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-			
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	-			
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-			

Analytical Report Number: 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1474

Lab Sample Number				982323	982324			
Sample Reference				TP07	TP03			
Sample Number				None Supplied	None Supplied			
Depth (m)				0.20-0.50	0.30-0.60			
Date Sampled				11/06/2018	11/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	-			
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-			
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-			
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-			
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-			
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-			
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	-			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-			
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-			
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-			
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-			
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-			
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-			
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-			
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-			

Analytical Report Number : 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
982323	TP07	None Supplied	0.20-0.50	Brown clay with gravel.
982324	TP03	None Supplied	0.30-0.60	Brown clay and sand.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS

Analytical Report Number : 18-89114

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-89730

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	18/06/2018
Your job number:	18-3113	**Samples instructed on:**	20/06/2018
Your order number:	CL1482	**Analysis completed by:**	27/06/2018
Report Issue Number:	1	**Report issued on:**	27/06/2018
Samples Analysed:	1 bulk sample - 1 leachate sample - 3 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1482

Lab Sample Number				986190	986191	986192		
Sample Reference				BH03	BH04	BH04		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.50	1.00		
Date Sampled				15/06/2018	15/06/2018	15/06/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	8.7	14	17		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	1.8		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.106	-		
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.106	-		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	9.8	9.0	8.5		
Total Cyanide	mg/kg	1	MCERTS	1	< 1	< 1		
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.31	0.057	0.028		
Sulphide	mg/kg	1	MCERTS	3.5	1.2	< 1.0		
Total Sulphur	%	0.005	MCERTS	0.134	0.056	0.018		
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5		
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5		
Organic Matter	%	0.1	MCERTS	0.6	1.3	0.5		
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20	< 0.20		
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10	< 0.10		
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30	< 0.30		
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3	< 1.3		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	0.70	0.22	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	0.18	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	2.2	0.82	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	1.9	0.74	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.95	0.36	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	1.3	0.62	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.4	0.49	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.60	0.36	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.1	0.46	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.59	0.27	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.90	0.36	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	11.8	4.70	< 0.80		

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1482

Lab Sample Number				986190	986191	986192		
Sample Reference				BH03	BH04	BH04		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.50	1.00		
Date Sampled				15/06/2018	15/06/2018	15/06/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	12	4.9	2.7		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	14	15		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	340	160	130		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.2	0.4	1.0		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	15	35		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	59	32		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	270	500	320		
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	280	250	310		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.4	1.3	< 0.3		
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.30	0.54	< 0.25		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	16	35		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	51	34	63		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	300	120	86		
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	190	17	< 10		
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH C6 - C40	mg/kg	10	NONE	190	17	< 10		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	9.8	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	54	< 8.0	< 8.0		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	65	< 10	< 10		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	4.7	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	19	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	72	12	< 10		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	96	16	< 10		

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1482

Lab Sample Number				986190	986191	986192		
Sample Reference				BH03	BH04	BH04		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.50	1.00		
Date Sampled				15/06/2018	15/06/2018	15/06/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chloroethane	µg/kg	1	NONE	-	< 1.0	-		
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-		
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-		
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-		
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-		
Benzene	µg/kg	1	MCERTS	-	< 1.0	-		
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-		
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-		
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-		
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-		
Toluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-		
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-		
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
Styrene	µg/kg	1	MCERTS	-	< 1.0	-		
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-		
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-		
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-		
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-		
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-		
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-		
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-		

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1482

Lab Sample Number				986190	986191	986192		
Sample Reference				BH03	BH04	BH04		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.50	1.00		
Date Sampled				15/06/2018	15/06/2018	15/06/2018		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-		
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-		
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-		
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-		
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-		
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-		
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-		
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-		
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-		
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-		
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-		
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-		
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-		
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-		
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-		
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-		
Phenanthrene	mg/kg	0.05	MCERTS	-	0.22	-		
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-		
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-		
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-		
Fluoranthene	mg/kg	0.05	MCERTS	-	0.82	-		
Pyrene	mg/kg	0.05	MCERTS	-	0.74	-		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	0.36	-		
Chrysene	mg/kg	0.05	MCERTS	-	0.62	-		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	0.49	-		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	0.36	-		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	0.46	-		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.27	-		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.36	-		

Analytical Report Number: 18-89730
Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1482

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
986191	BH04	0.50	155	Hard/Cement Type Material & Loose Fibrous Debris	**Chrysotile**	0.106	**0.106**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1482

Lab Sample Number				986194				
Sample Reference				BH04				
Sample Number				None Supplied				
Depth (m)				0.50				
Date Sampled				15/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8				
Total Cyanide	µg/l	10	ISO 17025	< 10				
Sulphate as SO_4	mg/l	0.1	ISO 17025	3.3				
Sulphide	µg/l	5	NONE	< 5.0				
Ammoniacal Nitrogen as N	µg/l	15	NONE	< 15				
Ammonium as NH_4	µg/l	15	NONE	16				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	3.96				
Hardness - Total	mgCaCO3/l	1	NONE	30.1				
Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Isopropylphenol	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	< 0.2				

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1482

Lab Sample Number				986194				
Sample Reference				BH04				
Sample Number				None Supplied				
Depth (m)				0.50				
Date Sampled				15/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	1.7	ISO 17025	5.7				
Arsenic (dissolved)	µg/l	1.1	ISO 17025	2.0				
Barium (dissolved)	µg/l	0.05	ISO 17025	6.7				
Boron (dissolved)	µg/l	10	ISO 17025	< 10				
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08				
Chromium (hexavalent)	µg/l	5	NONE	< 5.0				
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.6				
Copper (dissolved)	µg/l	0.7	ISO 17025	7.8				
Lead (dissolved)	µg/l	1	ISO 17025	14				
Manganese (dissolved)	µg/l	0.06	ISO 17025	4.1				
Mercury - CV-AFS	ug/l	0.007	ISO 17025	0.0540				
Molybdenum (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Nickel (dissolved)	µg/l	0.3	ISO 17025	< 0.3				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Vanadium (dissolved)	µg/l	1.7	ISO 17025	13				
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.0				
Calcium (dissolved)	mg/l	0.012	ISO 17025	12				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	0.24				
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE	< 10				
TPH2 (C6 - C10)	µg/l	10	NONE	< 10				
TPH C6 - C40	ug/l	10	NONE	< 10				

Analytical Report Number: 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Lab Sample Number				986193				
Sample Reference				BH03				
Sample Number				None Supplied				
Depth (m)				0.30				
Date Sampled				15/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Bulk Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Asbestos Identification Name	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material				

Analytical Report Number : 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
986190	BH03	None Supplied	0.50	Light brown sand with rubble and brick.
986191	BH04	None Supplied	0.50	Brown loam and clay with brick and gravel
986192	BH04	None Supplied	1.00	Brown clay and sand with chalk and gravel

Analytical Report Number : 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	NONE
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L023-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Mercury Low Level in leachate	Mercury in leachate by CV-AFS,	In-house method based on USEPA method 1631	L085-PL	W	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS

Analytical Report Number : 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
NRA Leachate Prep	10:1 extract with de-ionised water shaken for 24 hours then filtered.	In-house method based on National Rivers Authority	L020-PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH at 20oC in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in leachate, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L102B-PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode.	In-house method	L010-PL	W	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of leachates	Determination of hardness in leachates by calculation from calcium and magnesium.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	NONE
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS

Analytical Report Number : 18-89730

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (leachate)	Determination of TPH in leachate by HS-GC-MS and GC-MS	In-house method	L070-PL	W	NONE
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH1 (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	In-house method	L070-PL	W	NONE
TPH2 (Leachates)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number : 18-90086

Project / Site name:	Eastman Dental Institute - 256 Grays Inn Road	**Samples received on:**	20/06/2018
Your job number:	18-3113	**Samples instructed on:**	22/06/2018
Your order number:	CL1486	**Analysis completed by:**	29/06/2018
Report Issue Number:	1	**Report issued on:**	29/06/2018
Samples Analysed:	2 soil samples		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1486

Lab Sample Number				987981	987982			
Sample Reference				BH03	BH03			
Sample Number				None Supplied	None Supplied			
Depth (m)				2.50	4.70			
Date Sampled				19/06/2018	19/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	9.6	22			
Total mass of sample received	kg	0.001	NONE	2.0	1.6			
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-			
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected			
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.045	-			
Asbestos Quantification Total	%	0.001	ISO 17025	0.045	-			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.6	8.0			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.7	0.45			
Sulphide	mg/kg	1	MCERTS	17	< 1.0			
Total Sulphur	%	0.005	MCERTS	2.90	0.046			
Ammonia as NH_3	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	< 0.5			
Organic Matter	%	0.1	MCERTS	1.5	0.8			
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20	< 0.20			
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Phenol	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10	< 0.10			
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30	< 0.30			
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3	< 1.3			

Analytical Report Number: 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1486

Lab Sample Number				987981	987982			
Sample Reference				BH03	BH03			
Sample Number				None Supplied	None Supplied			
Depth (m)				2.50	4.70			
Date Sampled				19/06/2018	19/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Phenanthrene	mg/kg	0.05	MCERTS	1.1	< 0.05			
Anthracene	mg/kg	0.05	MCERTS	0.24	< 0.05			
Fluoranthene	mg/kg	0.05	MCERTS	1.9	< 0.05			
Pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.96	< 0.05			
Chrysene	mg/kg	0.05	MCERTS	0.79	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.0	< 0.05			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.59	< 0.05			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.0	< 0.05			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.46	< 0.05			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.60	< 0.05			
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	10.4	< 0.80			
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4.2	1.5			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.8	11			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	62			
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1.5			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	44			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	29			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	14			
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	240	370			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.2	< 0.3			
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.33	< 0.25			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	39			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.8	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	77			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	270	78			

Analytical Report Number: 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1486

Lab Sample Number				987981	987982			
Sample Reference				BH03	BH03			
Sample Number				None Supplied	None Supplied			
Depth (m)				2.50	4.70			
Date Sampled				19/06/2018	19/06/2018			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	-			
Toluene	µg/kg	1	MCERTS	< 1.0	-			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-			
o-xylene	µg/kg	1	MCERTS	< 1.0	-			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-			
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	930	33			
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1			
TPH C6 - C40	mg/kg	10	NONE	930	33			
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.7	-			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	31	-			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	200	-			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	230	-			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.5	-			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	38	-			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	470	-			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	510	-			

Analytical Report Number: 18-90086
Project / Site name: Eastman Dental Institute - 256 Grays Inn Road
Your Order No: CL1486

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
987981	BH03	2.50	143	Loose Fibrous Debris	**Chrysotile**	0.045	**0.045**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
987981	BH03	None Supplied	2.50	Brown sand with brick and rubble.
987982	BH03	None Supplied	4.70	Brown clay with gravel.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS

Analytical Report Number : 18-90086

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 18-90251

Project / Site name:	Eastman Dental Institute- 256 Grays Inn Road	**Samples received on:**	25/06/2018
Your job number:	18-3113	**Samples instructed on:**	25/06/2018
Your order number:	CL1487	**Analysis completed by:**	02/07/2018
Report Issue Number:	1	**Report issued on:**	02/07/2018
Samples Analysed:	1 soil sample		

Signed:

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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Analytical Report Number: 18-90251

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1487

Lab Sample Number				988737				
Sample Reference				BH01				
Sample Number				None Supplied				
Depth (m)				0.50				
Date Sampled				20/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	7.5				
Total mass of sample received	kg	0.001	NONE	1.9				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite				
Asbestos in Soil	Type	N/A	ISO 17025	Detected				
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001				
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.6				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Free Cyanide	mg/kg	1	MCERTS	< 1				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.7				
Sulphide	mg/kg	1	MCERTS	6.8				
Total Sulphur	%	0.005	MCERTS	0.289				
Ammonia as NH_3	mg/kg	0.5	MCERTS	0.7				
Ammonium as NH_4	mg/kg	0.5	MCERTS	0.8				
Organic Matter	%	0.1	MCERTS	1.2				
Phenols by HPLC								
Catechol	mg/kg	0.1	ISO 17025	< 0.10				
Resorcinol	mg/kg	0.1	ISO 17025	< 0.10				
Cresols (o-, m-, p-)	mg/kg	0.3	ISO 17025	< 0.30				
Total Naphthols (sum of 1- and 2- Naphthol)	mg/kg	0.2	ISO 17025	< 0.20				
2-Isopropylphenol	mg/kg	0.1	ISO 17025	< 0.10				
Phenol	mg/kg	0.1	ISO 17025	< 0.10				
Trimethylphenol (2,3,5-)	mg/kg	0.1	ISO 17025	< 0.10				
Total Xylenols and Ethylphenols	mg/kg	0.3	ISO 17025	< 0.30				
Total Phenols								
Total Phenols (HPLC)	mg/kg	1.3	ISO 17025	< 1.3				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	0.28				
Anthracene	mg/kg	0.05	MCERTS	0.10				
Fluoranthene	mg/kg	0.05	MCERTS	0.68				
Pyrene	mg/kg	0.05	MCERTS	0.56				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.37				
Chrysene	mg/kg	0.05	MCERTS	0.32				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.52				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.23				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.43				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.19				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.25				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.93				

Analytical Report Number: 18-90251

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1487

Lab Sample Number				988737				
Sample Reference				BH01				
Sample Number				None Supplied				
Depth (m)				0.50				
Date Sampled				20/06/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.4				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150				
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	47				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150				
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	230				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Molybdenum (aqua regia extractable)	mg/kg	0.25	MCERTS	0.91				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	62				
Petroleum Hydrocarbons								
TPH C10 - C40	mg/kg	10	MCERTS	870				
TPH2 (C6 - C10)	mg/kg	0.1	MCERTS	< 0.1				
TPH C6 - C40	mg/kg	10	NONE	870				

Analytical Report Number: 18-90251
Project / Site name: Eastman Dental Institute- 256 Grays Inn Road
Your Order No: CL1487

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
988737	BH01	0.50	138	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 18-90251

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
988737	BH01	None Supplied	0.50	Brown sand with rubble and brick.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 18-90251

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Phenols, speciated, in soil, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	W	ISO 17025
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 18-90251

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding.	L076-PL	W	MCERTS
TPH C6 - C40 (soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method	L076-PL	W	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Appendix C

GROUND GAS AND GROUNDWATER MONITORING RECORDS

Borehole	Depth of Installation (mbgl)	Date of Installation	Type	Top (mbgl)	Bottom (mbgl)	Date & Time	Water Level (mbgl)	Water Level (mOD)	Remarks
BH01	1.50	26/06/2018	SPG/GW	0.50	1.50	10/08/2018 09:00:00	No Access		Car parked
	1.50	26/06/2018	SPG/GW	0.50	1.50	16/08/2018 11:00:00	Dry		
	1.50	26/06/2018	SPG/GW	0.50	1.50	21/08/2018 12:00:00	No Access		Tractor parked
	1.50	26/06/2018	SPG/GW	0.50	1.50	03/09/2018 10:37:00	Dry		
	1.50	26/06/2018	SPG/GW	0.50	1.50	10/09/2018 11:00:00	Dry		
	1.50	26/06/2018	SPG/GW	0.50	1.50	17/09/2018 11:20:00	Dry		
	12.00	26/06/2018	SPIE	9.50	12.00	10/08/2018 09:00:00	No Access		Car parked
	12.00	26/06/2018	SPIE	9.50	12.00	16/08/2018 11:00:00	11.66	8.48	
	12.00	26/06/2018	SPIE	9.50	12.00	21/08/2018 12:00:00	No Access		Tractor parked
	12.00	26/06/2018	SPIE	9.50	12.00	03/09/2018 10:37:00	10.87	9.27	
	12.00	26/06/2018	SPIE	9.50	12.00	10/09/2018 11:00:00	10.85	9.29	
	12.00	26/06/2018	SPIE	9.50	12.00	17/09/2018 11:20:00	10.17	9.97	
	18.50	26/06/2018	VWP			10/08/2018 09:00:00	No Access		Car parked
	18.50	26/06/2018	VWP			16/08/2018 11:00:00	13.20	6.94	
	18.50	26/06/2018	VWP			21/08/2018 12:00:00	No Access		Tractor parked
	18.50	26/06/2018	VWP			03/09/2018 10:37:00	12.88	7.26	
	18.50	26/06/2018	VWP			10/09/2018 11:04:00	12.90	7.24	
	18.50	26/06/2018	VWP			17/09/2018 11:22:00	13.33	6.81	
	46.00	26/06/2018	VWP			10/08/2018 09:00:00	No Access		Car parked
	46.00	26/06/2018	VWP			16/08/2018 11:00:00	45.95	-25.81	
	46.00	26/06/2018	VWP			21/08/2018 12:00:00	No Access		Tractor parked
	46.00	26/06/2018	VWP			03/09/2018 10:37:00	45.91	-25.77	
	46.00	26/06/2018	VWP			10/09/2018 11:02:00	45.92	-25.78	
	46.00	26/06/2018	VWP			17/09/2018 11:20:00	45.91	-25.77	
BH02C	8.60	12/06/2018	SPIE	8.00	9.00	10/08/2018 11:20:00	Dry		
	8.60	12/06/2018	SPIE	8.00	9.00	16/08/2018 10:40:00	Dry		
	8.60	12/06/2018	SPIE	8.00	9.00	21/08/2018 12:45:00	Dry		
	8.60	12/06/2018	SPIE	8.00	9.00	03/09/2018 10:15:00	Dry		
	8.60	12/06/2018	SPIE	8.00	9.00	10/09/2018 10:50:00	Dry		
	8.60	12/06/2018	SPIE	8.00	9.00	17/09/2018 11:10:00	Dry		
	15.10	12/06/2018	SPG/GW	14.00	15.10	10/08/2018 11:20:00	11.15	9.41	
	15.10	12/06/2018	SPG/GW	14.00	15.10	16/08/2018 10:40:00	11.16	9.40	
	15.10	12/06/2018	SPG/GW	14.00	15.10	21/08/2018 12:44:00	11.35	9.21	
	15.10	12/06/2018	SPG/GW	14.00	15.10	03/09/2018 10:15:00	11.28	9.28	
	15.10	12/06/2018	SPG/GW	14.00	15.10	10/09/2018 10:50:00	11.30	9.26	
	15.10	12/06/2018	SPG/GW	14.00	15.10	17/09/2018 11:10:00	11.31	9.25	
BH03	4.00	09/07/2018	SPG/GW	1.00	4.00	10/08/2018 09:40:00	Dry		
	4.00	09/07/2018	SPG/GW	1.00	4.00	16/08/2018 10:00:00	Dry		

KEY

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe
VWP - Vibrating Wire Piezometer

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GROUNDWATER MONITORING

Job No: 18/3113

Project: UCL ION / DRI

Client: University College London

Borehole	Depth of Installation (mbgl)	Date of Installation	Type	Top (mbgl)	Bottom (mbgl)	Date & Time	Water Level (mbgl)	Water Level (mOD)	Remarks
BH03	4.00	09/07/2018	SPG/GW	1.00	4.00	21/08/2018 12:32:00	Dry		
	4.00	09/07/2018	SPG/GW	1.00	4.00	03/09/2018 10:07:00	Dry		
	4.00	09/07/2018	SPG/GW	1.00	4.00	10/09/2018 10:35:00	Dry		
	4.00	09/07/2018	SPG/GW	1.00	4.00	17/09/2018 11:00:00	Dry		
	8.00	09/07/2018	VWP			10/08/2018 09:40:00	6.02	14.49	
	8.00	09/07/2018	VWP			16/08/2018 10:00:00	6.00	14.51	
	8.00	09/07/2018	VWP			21/08/2018 12:30:00	5.98	14.53	
	8.00	09/07/2018	VWP			03/09/2018 10:07:00	5.92	14.59	
	8.00	09/07/2018	VWP			10/09/2018 10:42:00	5.96	14.55	
	8.00	09/07/2018	VWP			17/09/2018 10:58:00	5.97	14.54	
	20.50	09/07/2018	SPIE	19.00	20.50	10/08/2018 09:40:00	12.42	8.09	
	20.50	09/07/2018	SPIE	19.00	20.50	16/08/2018 10:00:00	12.62	7.89	
	20.50	09/07/2018	SPIE	19.00	20.50	21/08/2018 12:33:00	12.49	8.02	
	20.50	09/07/2018	SPIE	19.00	20.50	03/09/2018 10:07:00	12.49	8.02	
	20.50	09/07/2018	SPIE	19.00	20.50	10/09/2018 10:35:00	12.49	8.02	
	20.50	09/07/2018	SPIE	19.00	20.50	17/09/2018 11:00:00	12.55	7.96	
BH04	2.50	18/07/2018	SPGW	1.50	2.50	10/08/2018 09:20:00	Dry		
	2.50	18/07/2018	SPGW	1.50	2.50	16/08/2018 10:30:00	2.48	17.95	
	2.50	18/07/2018	SPGW	1.50	2.50	21/08/2018 12:15:00	Dry		
	2.50	18/07/2018	SPGW	1.50	2.50	03/09/2018 10:15:00	Dry		
	2.50	18/07/2018	SPGW	1.50	2.50	10/09/2018 10:15:00	Dry		
	2.50	18/07/2018	SPGW	1.50	2.50	17/09/2018 10:58:00	Dry		
	39.00	18/07/2018	SPIE	38.00	39.00	10/08/2018 09:20:00	Dry		
	39.00	18/07/2018	SPIE	38.00	39.00	16/08/2018 10:30:00	38.09	-17.66	
	39.00	18/07/2018	SPIE	38.00	39.00	21/08/2018 12:15:00	37.21	-16.78	
	39.00	18/07/2018	SPIE	38.00	39.00	03/09/2018 10:15:00	Dry		
	39.00	18/07/2018	SPIE	38.00	39.00	10/09/2018 10:15:00	Dry		
	39.00	18/07/2018	SPIE	38.00	39.00	17/09/2018 11:00:00	Dry		
	58.50	18/07/2018	VWP			10/08/2018 09:20:00	51.06	-30.63	
	58.50	18/07/2018	VWP			16/08/2018 10:30:00	51.08	-30.65	
	58.50	18/07/2018	VWP			21/08/2018 12:18:00	51.09	-30.66	
	58.50	18/07/2018	VWP			03/09/2018 10:15:00	51.12	-30.69	
	58.50	18/07/2018	VWP			10/09/2018 10:32:00	51.13	-30.70	
	58.50	18/07/2018	VWP			17/09/2018 10:55:00	51.13	-30.70	
WS03	2.50	23/05/2018	SPG/GW	0.50	2.50	10/08/2018 09:30:00	Dry		
	2.50	23/05/2018	SPG/GW	0.50	2.50	16/08/2018 10:15:00	Dry		
	2.50	23/05/2018	SPG/GW	0.50	2.50	21/08/2018 12:02:00	Dry		
	2.50	23/05/2018	SPG/GW	0.50	2.50	03/09/2018 10:40:00	No Access		Car parked

KEY

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GROUNDWATER MONITORING

Job No: 18/3113

Project: UCL ION / DRI

Client: University College London

Borehole	Depth of Installation (mbgl)	Date of Installation	Type	Top (mbgl)	Bottom (mbgl)	Date & Time	Water Level (mbgl)	Water Level (mOD)	Remarks
WS03	2.50	23/05/2018	SPG/GW	0.50	2.50	10/09/2018 10:25:00	Dry		
	2.50	23/05/2018	SPG/GW	0.50	2.50	17/09/2018 10:46:00	Dry		

KEY

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SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe
VWP - Vibrating Wire Piezometer

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AGS

GROUNDWATER MONITORING

Job No: 18/3113

Project: UCL ION / DRI

Client: University College London

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	FG+RP
Date:	10/08/2018	**Job Number:**	18/3113	**Time:**	

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:					Temperature (°)	17				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01					**0**							
Depth to GW: (m)					**30**							Cars parked
					60							
					90							
					120							
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5							
					15							
					30							
					45							
					60							
					75							
					90							
					105							
					120							

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	FG+RP
Date:	10/08/2018	**Job Number:**	18/3113	**Time:**	10:35

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1015				Temperature (°)		17			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1015	0	0.0	**0**							
Depth to GW: (m)	11.15				**30**	0.0	0.0	0.0	20.6	0	0	
					60	0.0	0.0	0.0	20.6	0	0	
					90	0.0	0.0	0.0	20.6	0	0	
					120	0.0	0.0	0.0	20.6	0	0	Constant Readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	0.3						
					15	0.4						
					30	0.4						
					45	0.4						
					60	0.4						
					75	0.4						
					90	0.4						
					105	0.4						
					120	0.4						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	FG+RP
Date:	10/08/2018	**Job Number:**	18/3113	**Time:**	09:45

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1017				Temperature (°)		17			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1017	0	0.0	**0**							
Depth to GW: (m)	DRY				**30**	0.0	0.0	0.1	20.2	0	0	
					60	0.0	0.0	0.1	20.2	0	0	
					90	0.0	0.0	0.1	20.2	0	0	
					120	0.0	0.0	0.1	20.2	0	0	Constant Readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.6						
					15	1.6						
					30	1.7						
					45	1.8						
					60	1.8						
					75	1.8						
					90	1.8						
					105	1.8						
					120	1.8						

KEY
aP: Atmospheric Pressure
dP: Differential Pressure
NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	FG+RP
Date:	10/08/2018	**Job Number:**	18/3113	**Time:**	09:30

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None	X	Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1017				Temperature (°)	17				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03		1017	0	0.0	**0**							
Depth to GW: (m)	DRY				**30**	0.0	0.0	0.7	19.2	0	0	
					60	0.0	0.0	0.7	19.2	0	0	
					90	0.0	0.0	0.7	19.2	0	0	
					120	0.0	0.0	0.7	19.2	0	0	Constant Readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.5						
					15	1.0						
					30	0.8						
					45	0.7						
					60	0.6						
					75	0.5						
					90	0.5						
					105	0.5						
					120	0.4						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC+RP
Date:	16/08/2018	**Job Number:**	18/3113	**Time:**	11:00

METEOROLOGICAL AND SITE INFORMATION										
State of ground:		Dry		Moist	X	Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight		Cloudy	X	Overcast		
Precipitation		None		Slight	X	Moderate		Heavy		
Barometric pressure (mb) Before:	1011				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01		1011	0	0.0	**0**							
Depth to GW: (m)	DRY				**30**	0.0	0.0	2.2	17.6	0	0	
					60	0.0	0.0	2.2	17.6	0	0	
					90	0.0	0.0	2.2	17.6	0	0	
					120	0.0	0.0	2.2	17.6	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.9						
					15	1.1						
					30	0.8						
					45	0.7						
					60	0.6						
					75	0.5						
					90	0.5						
					105	0.5						
					120	0.4						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC+RP
Date:	16/08/2018	**Job Number:**	18/3113	**Time:**	10:40

METEOROLOGICAL AND SITE INFORMATION										
State of ground:		Dry		Moist	X	Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight		Cloudy	X	Overcast		
Precipitation		None		Slight		Moderate	X	Heavy		
Barometric pressure (mb) Before:	1009				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1009	0	0.0	**0**							
Depth to GW: (m)	11.16				**30**	0.0	0.0	0.6	19.0	0	0	
					60	0.0	0.0	0.6	18.9	0	0	
					90	0.0	0.0	0.6	18.9	0	0	
					120	0.0	0.0	0.6	18.9	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.7						
					15	4.7						
					30	6.0						
					45	6.3						
					60	6.5						
					75	6.7						
					90	6.8						
					105	6.9						
					120	7.0						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC+RP
Date:	16/08/2018	**Job Number:**	18/3113	**Time:**	10:00

METEOROLOGICAL AND SITE INFORMATION										
State of ground:		Dry		Moist	X	Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight		Cloudy	X	Overcast		
Precipitation		None		Slight	X	Moderate		Heavy		
Barometric pressure (mb) Before:	1010				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1010	0	0.0	**0**							
Depth to GW: (m)	DRY				**30**	0.0	0.0	0.1	20.5	0	0	
					60	0.0	0.0	0.1	20.4	0	0	
					90	0.0	0.0	0.1	20.4	0	0	
					120	0.0	0.0	0.1	20.4	0	0	
					150	0.0	0.0	0.1	20.4	0	0	Constant readings
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.3						
					15	1.6						
					30	1.6						
					45	1.6						
					60	1.5						
					75	1.5						
					90	1.5						
					105	1.4						
					120	1.4						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC+RP
Date:	16/08/2018	**Job Number:**	18/3113	**Time:**	10:15

METEOROLOGICAL AND SITE INFORMATION										
State of ground:		Dry		Moist	X	Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight		Cloudy	X	Overcast		
Precipitation		None		Slight	X	Moderate		Heavy		
Barometric pressure (mb) Before:	1009				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03		1009	0	0.0	**0**							
Depth to GW: (m)	DRY				**30**	0.0	0.0	0.7	19.4	0	0	
					60	0.0	0.0	0.7	19.3	0	0	
					90	0.0	0.0	0.7	19.3	0	0	
					120	0.0	0.0	0.7	19.3	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	0.8						
					15	0.5						
					30	0.4						
					45	0.3						
					60	0.2						
					75	0.2						
					90	0.1						
					105	0.1						
					120	0.1						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC
Date:	21/08/2018	**Job Number:**	18/3113	**Time:**	12:00

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:					Temperature (°)	24				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;		

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01					**0**							
Depth to GW: (m)					**30**							Tractor parked
					60							
					90							
					120							
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5							
					15							
					30							
					45							
					60							
					75							
					90							
					105							
					120							

KEY
aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC
Date:	21/08/2018	**Job Number:**	18/3113	**Time:**	12:44

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1018				Temperature (°)	24				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1017	0	0.0	**0**							
Depth to GW: (m)	11.35				**30**	0.0	0.0	0.4	19.9	0	0	
					60	0.0	0.0	0.3	20.0	0	0	
					90	0.0	0.0	0.3	20.1	0	0	
					120	0.0	0.0	0.3	20.1	0	0	
					150	0.0	0.0	0.3	20.2	0	0	Constant readings
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	4.2						
					15	4.5						
					30	4.2						
					45	4.1						
					60	4.0						
					75	3.9						
					90	3.9						
					105	3.8						
					120	3.8						

KEY
aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC
Date:	21/08/2018	**Job Number:**	18/3113	**Time:**	12:21

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)	24				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1019	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.1	20.5	0	0	
					60	0.0	0.0	0.1	20.5	0	0	
					90	0.0	0.0	0.1	20.5	0	0	
					120	0.0	0.0	0.1	20.5	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	2.0						
					15	1.9						
					30	1.8						
					45	1.7						
					60	1.6						
					75	1.6						
					90	1.6						
					105	1.5						
					120	1.5						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC
Date:	21/08/2018	**Job Number:**	18/3113	**Time:**	12:02

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1017				Temperature (°)	24				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03		1017	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.7	19.3	0	0	
					60	0.0	0.0	0.7	19.3	0	0	
					90	0.0	0.0	0.7	19.3	0	0	
					120	0.0	0.0	0.7	19.3	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.0						
					15	0.7						
					30	0.7						
					45	0.6						
					60	0.6						
					75	0.6						
					90	0.6						
					105	0.5						
					120	0.5						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	03/09/2018	**Job Number:**	18/3113	**Time:**	10:37

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)	20				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01		1019	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	2.1	16.1	0	0	
					60	0.0	0.0	2.1	16.0	0	0	
					90	0.0	0.0	2.1	16.0	0	0	
					120	0.0	0.0	2.1	16.0	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.0						
					15	0.7						
					30	0.5						
					45	0.3						
					60	0.2						
					75	0.1						
					90	0.0						
					105	0.0						
					120	0.0						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	03/09/2018	**Job Number:**	18/3113	**Time:**	10:15

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)	20				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1019	0	0.0	**0**							
Depth to GW: (m)	11.28				**30**	0.0	0.0	0.2	19.9	0	0	
					60	0.0	0.0	0.2	20.0	0	0	
					90	0.0	0.0	0.2	20.1	0	0	
					120	0.0	0.0	0.1	20.1	0	0	
					150	0.0	0.0	0.1	20.2	0	0	
					180	0.0	0.0	0.1	20.2	0	0	
					210	0.0	0.0	0.1	20.2	0	0	
					240	0.0	0.0	0.1	20.2	0	0	Constant readings
					270							
					300							
					PID (ppm)							
					5	5.7						
					15	6.1						
					30	6.0						
					45	5.8						
					60	5.6						
					75	5.3						
					90	5.1						
					105	4.9						
					120	4.8						

KEY

aP: Atmospheric Pressure

dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	03/09/2018	**Job Number:**	18/3113	**Time:**	10:07

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)	20				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1019	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.2	20.2	0	0	
					60	0.0	0.0	0.2	20.2	0	0	
					90	0.0	0.0	0.2	20.2	0	0	
					120	0.0	0.0	0.2	20.2	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.8						
					15	1.8						
					30	1.6						
					45	1.5						
					60	1.4						
					75	1.3						
					90	1.2						
					105	1.2						
					120	1.1						

KEY
aP: Atmospheric Pressure
dP: Differential Pressure
NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	03/09/2018	**Job Number:**	18/3113	**Time:**	

METEOROLOGICAL AND SITE INFORMATION											
State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:					Temperature (°)		20				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03					**0**							
Depth to GW: (m)					**30**							No access (Car parked)
					60							
					90							
					120							
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5							
					15							
					30							
					45							
					60							
					75							
					90							
					105							
					120							

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	10/09/2018	**Job Number:**	18/3113	**Time:**	11:00

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01		1019	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	2.1	17.5	0	0	
					60	0.0	0.0	2.2	17.5	0	0	
					90	0.0	0.0	2.2	17.5	0	0	
					120	0.0	0.0	2.2	17.5	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.1						
					15	1.0						
					30	1.0						
					45	0.9						
					60	0.9						
					75	0.8						
					90	0.8						
					105	0.7						
					120	0.7						

KEY

aP: Atmospheric Pressure

dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	10/09/2018	**Job Number:**	18/3113	**Time:**	10:50

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1019				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1019	0	0.0	**0**							
Depth to GW: (m)	11.30				**30**	0.0	0.0	0.1	20.2	0	0	
					60	0.0	0.0	0.1	20.2	0	0	
					90	0.0	0.0	0.1	20.2	0	0	
					120	0.0	0.0	0.1	20.2	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	4.6						
					15	5.3						
					30	5.5						
					45	5.5						
					60	5.4						
					75	5.1						
					90	4.9						
					105	4.7						
					120	4.5						

KEY

aP: Atmospheric Pressure

dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	10/09/2018	**Job Number:**	18/3113	**Time:**	10:35

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1020				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1020	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.1	20.4	0	0	
					60	0.0	0.0	0.1	20.3	0	0	
					90	0.0	0.0	0.1	20.3	0	0	
					120	0.0	0.0	0.1	20.3	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.3						
					15	1.2						
					30	1.2						
					45	1.1						
					60	1.1						
					75	1.1						
					90	1.0						
					105	0.9						
					120	1.0						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	10/09/2018	**Job Number:**	18/3113	**Time:**	10:25

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:		Calm	X	Light		Moderate		Strong		Ground Level
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1020				Temperature (°)		18			

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03		1020	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.7	19.4	0	0	
					60	0.0	0.0	0.7	19.3	0	0	
					90	0.0	0.0	0.7	19.3	0	0	
					120	0.0	0.0	0.7	19.3	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	1.6						
					15	1.4						
					30	1.2						
					45	0.8						
					60	0.8						
					75	0.7						
					90	0.6						
					105	0.4						
					120	0.3						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	17/09/2018	**Job Number:**	18/3113	**Time:**	11:20

METEOROLOGICAL AND SITE INFORMATION											
State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	1014				Temperature (°)		21				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH01		1014	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	2.1	18.1	0	0	
					60	0.0	0.0	2.1	18.0	0	0	
					90	0.0	0.0	2.1	18.0	0	0	
					120	0.0	0.0	2.1	18.0	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	0.3						
					15	0.3						
					30	0.4						
					45	0.4						
					60	0.4						
					75	0.4						
					90	0.4						
					105	0.4						
					120	0.3						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	17/09/2018	**Job Number:**	18/3113	**Time:**	11:10

METEOROLOGICAL AND SITE INFORMATION											
State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	1013				Temperature (°)		21				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH02C		1013	0	0.0	**0**							
Depth to GW: (m)	11.31				**30**	0.0	0.0	0.4	19.9	0	0	
					60	0.0	0.0	0.2	20.2	0	0	
					90	0.0	0.0	0.2	20.3	0	0	
					120	0.0	0.0	0.2	20.3	0	0	
					150	0.0	0.0	0.1	20.4	0	0	
					180	0.0	0.0	0.1	20.4	0	0	
					210	0.0	0.0	0.1	20.4	0	0	Constant readings
					240							
					270							
					300							
					PID (ppm)							
					5	1.8						
					15	2.0						
					30	2.1						
					45	2.1						
					60	2.1						
					75	2.1						
					90	2.1						
					105	2.1						
					120	2.2						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	17/09/2018	**Job Number:**	18/3113	**Time:**	11:00

METEOROLOGICAL AND SITE INFORMATION										
State of ground:	X	Dry		Moist		Wet				**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong		Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast		
Precipitation	X	None		Slight		Moderate		Heavy		
Barometric pressure (mb) Before:	1015				Temperature (°)	21				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
BH03		1015	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.1	20.4	0	0	
					60	0.0	0.0	0.1	20.4	0	0	
					90	0.0	0.0	0.1	20.4	0	0	
					120	0.0	0.0	0.1	20.4	0	0	Constant readings
					150							
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	0.7						
					15	0.8						
					30	0.8						
					45	0.8						
					60	0.8						
					75	0.8						
					90	0.8						
					105	0.8						
					120	0.8						

KEY

aP: Atmospheric Pressure
dP: Differential Pressure

NR: Not Recorded

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT

Gas Monitoring Results

JOB DETAILS					
Location:	UCL			**Engineer:**	VC + RP
Date:	17/09/2018	**Job Number:**	18/3113	**Time:**	10:46

METEOROLOGICAL AND SITE INFORMATION											
State of ground:	X	Dry		Moist		Wet					**Delete As Required**
Wind:	X	Calm		Light		Moderate		Strong			Ground Level
Cloud cover:	X	None		Slight		Cloudy		Overcast			
Precipitation	X	None		Slight		Moderate		Heavy			
Barometric pressure (mb) Before:	1014				Temperature (°)		21				

INSTRUMENTATION USED			
Gas concentration:	Gas Data LMSxi G3.18, Accuracy: CH_4 ±0.2% (0 to 5%), ±1.0% (at 30%), ±3.0% (at 100%); CO_2 ±0.1% (0 to 10%), ±3.0% (at 40%); O_2 ±0.5%		Tick Instrument used
	Gas Data GFM 436, Accuracy: CH4 ±0.3% (0 to 5%), ±3.0% (at 30%), ±3.0% (at 100%); CO2 ±0.3% (0 to 5%), ±3.0% (at 40%); O2 ±0.2%;	X	

BH (No.)		aP After (mb)	dp (Pa)	Flow rate (l/h)	Time (s)	CH_4 (%)	LEL (%)	CO_2 (%)	O_2 (%)	H_2S(ppm)	CO (ppm)	Comments
WS03		1014	0	0.0	**0**							
Depth to GW: (m)	Dry				**30**	0.0	0.0	0.7	19.6	0	0	
					60	0.0	0.0	0.7	19.5	0	0	
					90	0.0	0.0	0.7	19.5	0	0	
					120	0.0	0.0	0.7	19.5	0	0	
					150	0.0	0.0	0.7	19.5	0	0	Constant readings
					180							
					210							
					240							
					270							
					300							
					PID (ppm)							
					5	0.0						
					15	0.0						
					30	0.0						
					45	0.0						
					60	0.0						
					75	0.0						
					90	0.0						
					105	0.0						
					120	0.0						

KEY

aP: Atmospheric Pressure NR: Not Recorded

dP: Differential Pressure

Note: Where 0.0 is shown on the results indicates value lower than the detection limit of the instrument.

CONCEPT SITE INVESTIGATIONS

Vibrating Wire Piezometer: BH01 - 18.5m

Installed depth(mbgl):	**18.50**	Ground Level	(mOD)
Instrument Number	345691	Range	kPa
k factor kPa	-0.199803995 per digit	Date Installed:	26/06/2018

Date	Time	Microseconds	Digits (B units)	Pressure kPa	Reduced Level (mOD)	Head (m)	mbgl	Remarks
26/06/2018		3257	9426.8	0.00	-18.50	0.00	18.50	Base reading (Out of water)
16/08/2018	11:00	3303	9166.6	51.99	-13.20	5.30	13.20	Site visit 1
03/09/2018	10:37	3306	9151.1	55.09	-12.88	5.62	12.88	Site visit 2
10/09/2018	11:04	3306	9152.2	54.87	-12.90	5.60	12.90	Site visit 3
17/09/2018	11:22	3302	9173.3	50.65	-13.33	5.17	13.33	Site visit 4

Note: For ease of entry, using mini readout CLP04, the reading of 0.03389 has beeen entered as 3389

CONCEPT SITE INVESTIGATIONS

Vibrating Wire Piezometer: BH01 - 46m

Installed depth(mbgl):	**46.00**	Ground Level	(mOD)
Instrument Number	342539	Range	kPa
k factor kPa	-0.127812226 per digit	Date Installed:	26/06/2018

Date	Time	Microseconds	Digits (B units)	Pressure kPa	Reduced Level (mOD)	Head (m)	mbgl	Remarks
26/06/2018		3315	9102.6	0.00	-46.00	0.00	46.00	Base reading (Out of water)
16/08/2018	11:00	3315	9098.7	0.49	-45.95	0.05	45.95	Site visit 1
03/09/2018	10:37	3316	9095.4	0.91	-45.91	0.09	45.91	Site visit 2
10/09/2018	11:02	3316	9096.5	0.77	-45.92	0.08	45.92	Site visit 3
17/09/2018	11:20	3316	9096.0	0.84	-45.91	0.09	45.91	Site visit 4

Note: For ease of entry, using mini readout CLP04, the reading of 0.03389 has beeen entered as 3389

CONCEPT SITE INVESTIGATIONS

Vibrating Wire Piezometer: BH03 - 8m

Installed depth(mbgl):	**8.00**	Ground Level	(mOD)
Instrument Number	346346	Range	kPa
k factor kPa	-0.118494261 per digit	Date Installed:	09/07/2018

Date	Time	Microseconds	Digits (B units)	Pressure kPa	Reduced Level (mOD)	Head (m)	mbgl	Remarks
09/07/2018		3267	9369.2	0.00	-8.00	0.00	8.00	Base reading (Out of water)
10/08/2018	09:40	3296	9205.0	19.45	-6.02	1.98	6.02	Site visit 1
16/08/2018	10:00	3296	9203.9	19.58	-6.00	2.00	6.00	Site visit 2
21/08/2018	12:30	3297	9201.7	19.85	-5.98	2.02	5.98	Site visit 3
03/09/2018	10:07	3297	9197.2	20.38	-5.92	2.08	5.92	Site visit 4
10/09/2018	10:42	3297	9200.0	20.05	-5.96	2.04	5.96	Site visit 5
17/09/2018	10:58	3297	9201.1	19.91	-5.97	2.03	5.97	Site visit 6

Note: For ease of entry, using mini readout CLP04, the reading of 0.03389 has beeen entered as 3389

CONCEPT SITE INVESTIGATIONS

Vibrating Wire Piezometer: BH04 - 58.5m

Installed depth(mbgl):	**58.50**	Ground Level	(mOD)
Instrument Number	346347	Range	kPa
k factor kPa	-0.119210725 per digit	Date Installed:	25/07/2018

Date	Time	Microseconds	Digits (B units)	Pressure kPa	Reduced Level (mOD)	Head (m)	mbgl	Remarks
25/07/2018		3258	9424.0	0.00	-58.50	0.00	58.50	Base reading (Out of water)
10/08/2018	09:20	3369	8812.5	72.89	-51.06	7.44	51.06	Site visit 1
16/08/2018	10:30	3368	8814.1	72.71	-51.08	7.42	51.08	Site visit 2
21/08/2018	12:18	3368	8814.6	72.64	-51.09	7.41	51.09	Site visit 3
03/09/2018	10:15	3368	8816.7	72.39	-51.12	7.38	51.12	Site visit 4
10/09/2018	10:32	3368	8817.8	72.27	-51.13	7.37	51.13	Site visit 5
17/09/2018	10:55	3368	8817.8	72.27	-51.13	7.37	51.13	Site visit 6

Note: For ease of entry, using mini readout CLP04, the reading of 0.03389 has beeen entered as 3389

Appendix D

UK LEGISLATIVE CONTEXT AND CONTAMINATION ASSESSMENT METHODOLOGY

Intended for

Project no.

Date
01 May 2016

LEGISLATIVE CONTEXT AND METHODOLOGIES

GROUND CONTAMINATION

1. LEGISLATIVE CONTEXT

1.1.1. England

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently revoked with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380) (as amended), which came into force in August 2006, and consolidated the previous regulations and amendments. Revised statutory guidance ("the Guidance") for local authorities on how to implement the regime, including the decision-making process on whether land is contaminated land in the legal sense, has been published by Defra and entered into force in April 2012.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… 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) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused".

1.1.2. Wales

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in Wales on 1st July 2001 as The Contaminated Land (Wales) Regulations 2001 (WSI 2001/2197, W.157). These regulations were subsequently revoked with the provision of The Contaminated Land (Wales) Regulations 2006 (SI 2006/2989 W.278), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 10th December 2006 and were accompanied by statutory guidance published by the Welsh Assembly Government in December 2006 ('the Guidance') for local authorities on how to implement the regime. The 2006 statutory guidance was replaced by the Contaminated Land Statutory Guidance - 2012 (WG19243), issued by the Welsh Government.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… 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" (Section 86 of the Water Act 2003 remains only partially implemented in Wales).

1.1.3. Scotland

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in Scotland on 14th July 2000 as The Contaminated Land (Scotland) Regulations 2000 (SSI 2000/ 178). These regulations were subsequently revoked with the provision of The Contaminated Land (Scotland) Regulations 2005 (SSI 2005 /658), which came into force in April 2006 and consolidated the previous regulations and amendments and were accompanied by statutory guidance published by

the Scottish Government in May 2006 ('the Guidance') for local authorities on how to implement the regime.

Under Part 2A of the Environmental Protection Act 1990, "contaminated land" is defined in the Contaminated Land (Scotland) Regulations 2005 (as amended) as land which appears to the local authority 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) significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused.

1.1.4. Northern Ireland

The regime for Contaminated Land in Northern Ireland was set out in the Waste and Contaminated Land (Northern Ireland) Order 1997 (as amended). Part 3 of the Waste and Contaminated Land (Northern Ireland) Order 1997 contains the main legal provisions for the introduction of a contaminated land regime in Northern Ireland, but the regime is not yet in operation. It is noted that the Contaminated Land (Northern Ireland) Regulations 2006 and associated statutory guidance were published in draft for consultation in 2006, but have yet to be finalised. Under Part 3 of the 1997 Order, contaminated land is defined as,

"any land which appears to a district council in whose district 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 waterways or underground strata is being, or is likely to be, caused.

"Significant harm" is defined in the draft guidance on risk based criteria and must be the result of a "pollutant linkage", which may be assessed using qualitative risk assessment models. The presence of a pollutant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist.

1.1.5. The Channel Islands

There is no formal contaminated land regime in the Channel Islands, as they are not part of the UK, and as such they usually adopt either the English or French legislation or create their own.

1.1.6. Isle of Man

There is no formal contaminated land regime in the Isle of Man, and they usually adopt a best 'practice approach' from a European country of choice on this basis.

1.1.7. Risk assessment Framework

"Significant harm" or "significant pollution of controlled waters" is defined in the Guidance on risk based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land.

The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A source - a substance that is capable of causing pollution or harm;
- A receptor - something which could be adversely affected by the contaminant; and

- A pathway - a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

The Environment Agency Contaminated Land Report CLR 11 Model Procedures for the Management of Land Contamination provides the technical framework for structured decision making about land contamination. CLR 11 advocates a phased approach to risk assessment comprising:

- Preliminary Risk Assessment (PRA) – desk study and qualitative assessment
- Generic Quantitative Risk Assessment (GQRA) – assessment of contaminant concentrations against generic assessment criteria.
- Detailed Quantitative Risk Assessment (DQRA) – detailed site specific risk assessment and development of site-specific assessment criteria.

Each of these phases follows the same basic steps buts adds site specific details and further certainty into the assessment as the stages progress. The basic steps are:

- Hazard identification and hazard assessment – development or refinement of the source-pathway-receptor conceptual model, and identification of potential pollutant linkages.
- Risk Estimation – qualitative risk estimation predicting magnitude and probability of potential consequences that may arise as a result of a hazard.
- Risk Evaluation – deciding whether a risk is unacceptable.

2. RISK ESTIMATION

An assessment of environmental risks is made for each potential pollutant linkage identified.

Risk estimation has been completed in accordance with the guidance provided in:

- NHBC and Environment Agency 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008.

The following is taken directly from NHBC/EA 2008. The key to the classification is that the designation of risk is based upon the consideration of both:

a) the magnitude of the potential consequence (*i.e.*, severity) [takes into account both the potential severity of the hazard and the sensitivity of the receptor];

b) the magnitude of probability (*i.e.*, likelihood) [takes into account both the presence of the hazard and receptor and the integrity of the pathway].

Table 1: Classification of Consequence (after NHBC/EA 2008)

Category	Definition
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA **Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.
Mild	Exposure to human health **unlikely** to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Table 2: Classification of Probability (after NHBC/EA 2008)

Category	Definition
High Likelihood	There is pollutant linkage and an event would appear 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 pollutant 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 pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Table 3: The Classification of Risk (after NHBC/EA 2008)

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	**Very high**	High	Moderate	Low
	Likely	High	Moderate	Moderate/ Low	Low
	Low Likelihood	Moderate	Moderate/ Low	Low	Very low
	Unlikely	Moderate/ Low	Low	Very low	Very low

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation 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, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk

There is no potential risk if no pollution linkage has been established.

3. GQRA METHODOLOGIES

In order to assess the significance of the chemical concentrations recorded, generic assessment criteria (GAC) must be selected. The GAC are screening concentrations which are used initially for direct comparison to the measured site concentrations.

The GAC are defined based on the critical receptors identified at the site. Receptors are considered in relation to:

- Human health receptors (*e.g.*, site users);
- The water environment (*e.g.*, groundwater and surface water).

Potential risks to human health are considered primarily using measured concentrations of chemicals in soil. Potential risks to the water environment are considered primarily using soil leachate and groundwater concentrations as indicative of the potentially mobile fraction of any soil impact.

Additional receptors may be relevant dependent on the site *e.g.*, flora/fauna, water supply pipes, buried concrete.

3.1. Human Health Assessment

3.1.1. Initial Screening Assessment

In accordance with current UK guidance on legislation including Part 2A of the Environmental Protection Act 1990 and based on the principles of risk assessment, Ramboll Environ (REH) has derived generic assessment criteria (GAC) for interpretation of soil and groundwater chemical analysis. The Ramboll Environ GAC are considered to be threshold based screening concentrations, at which a significant risk is not considered to be present to the relevant receptors.

The Ramboll Environ REH GAC for soil assessment are based on the generic scenarios outlined in the Contaminated Land Exposure Assessment (CLEA) methodology and guidance documents (incorporating Science Reports SC050021/SR2 (January 2009), SR3 (January 2009), SR4 (September 2009) and the SGV reports (2009)). The generic scenarios include inhalation, ingestion, dermal contact of soil and dust as pathways for commercial and residential scenarios; as well as ingestion of homegrown produce for residential with gardens scenario. In addition, REH GAC have also been derived for the two Public Open Space land uses defined in C4SL guidance (outlined below).

The GAC have been calculated by use of two proprietary risk assessment models (CLEA Version 1.071 and the American Society for Testing Materials Risk Based Corrective Action RBCA Tool Kit Version 2.6 for Chemical Releases) which have been altered, where necessary, to reflect the current UK approach to human health risk assessment as set out in the Contaminated Land Report (CLR) 11 and the CLEA guidance documents. The physiochemical data has been taken from or derived using the methodology detailed in SR7 (November 2008) and SGV reports (2009), where feasible. The toxicology data has been taken from the current published EA toxicology documents. We have referred to all current publications and guidance issued up until 1st May 2016.

Reference has been made to the Defra-funded research project (SP1010), which developed a methodology to derive Category 4 Screening Levels (C4SLs) for six contaminants (benzo-a-pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead). SP1010 provides technical tools and advice to be developed to help regulators and others to conform to the requirements of revised Part 2A Statutory Guidance. The C4SLs are therefore less conservative than GAC developed in accordance with published CLEA guidance as they describe a low risk as opposed to minimal risk scenario. However,

consistent with the developed GAC, sites below the C4SLs are within Category 4 (lowest risk category) and therefore considered suitable for use.

Defra's SP1010 Policy Companion document (DEFRA, Dec 2014) states that where a C4SL value has been derived for a contaminant where a Soil Guideline Value (as published by the EA 2009) exists, it is anticipated that risk assessors will use the C4SL value in line with Part 2A Statutory Guidance. In the absence of a suitable C4SL, risk assessors should identify and select appropriate GAC in accordance with established good practice. On this basis, Ramboll Environ has adopted the use of C4SLs however minimal risk assumptions have been applied in-house REH GAC for other contaminants of concern within our screening assessments.

The C4SLs for the six compounds published, are based on a sandy loam soil with 6% soil organic matter (SOM). The 6% SOM and sandy loam soil type is not considered by Ramboll Environ to be realistic of 'typical' UK soil conditions, and EA guidance ('Using Soil Guideline Values' EA, 2009) states that at 6% SOM, GAC may not be sufficiently protective (i.e. the values are too high to be sufficiently certain that they describe land where there is no risk to human health or the risk is negligible). For the Ramboll Environ GAC, all the C4SL inputs have been used apart from the SOM and soil type, which were amended to 1% and sand; thereby ensuring a suitably conservative Ramboll Environ GAC appropriate for most soils and Made Ground encountered in the UK. It is noted that none of the screening criteria used in the UK, including the C4SLs, have a statutory basis.

Ramboll Environ also attended the Land Quality Management and Chartered Institute of Environmental Health workshop for the collaborative development of 'Suitable 4 Use Levels' (S4ULs) and reference has been made to their publication 'The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015'.

Review of additional UK organisation guidance including Contaminated Land: Applications in Real Environments (CL:AIRE) and partners GAC, including addendums up until 10 April 2012 has also been made. Soil Guideline Values (EA/DEFRA, 2009) may also be referred to if relevant. Finally, where necessary, other published sources of (non-UK) information, such as the RBCA V2.6 database has also been reviewed.

Contaminant concentrations below the adopted GAC are not considered to present a significant risk to identified receptors and therefore are not considered to warrant further study. Contaminants which are recorded at concentrations above their respective GAC are considered to present a potential risk to identified receptors and resultantly these determinants are subject to further assessment.

3.1.2. Contaminant Distribution Assessment

Concentrations above the GAC are considered further in relation to vertical and lateral distribution across the site and through statistical analysis, where appropriate. This analysis is used to define 'averaging areas' within which contamination concentrations and distribution are considered likely to be similar.

For each averaging area, where appropriate, statistical analysis is then used to calculate a 'representative' concentration for each contaminant within that area and identify possible outliers of the underlying distribution of contaminant concentrations. This analysis is completed in accordance with CIEH 2008 guidance.

The initial statistical tests are used to calculate the 95% probability that the true population mean falls below the critical concentration (GAC). In practise, this involves comparing the 95th Upper Confidence Limit of the true population mean with the GAC. The Maximum Value test is then used to identify whether the maximum concentration is likely to lie outside of the assumed distribution trend and as such would represent an outlier of the general population of data across the site. Outliers above the GAC may represent localised contaminant hotspots and require further consideration.

Constituent non-detects are conservatively assigned a value equal to the reported analytical laboratory limit of detection. Any identified true outliers are excluded from the datasets used in calculation of the 95%UCL value.

3.2. Assessment for the Water Environment

Assessment of risks to water resources is completed in general accordance with guidance provided in the Environment Agency 2013, Groundwater Protection Principles and Practice (GP3) for England and Wales and with reference to SEPA guidance WAT–PS-10-01 in Scotland.

Generic assessment criteria for waters must be selected to assess potential risks to the identified environmental receptors.

In the absence of relevant published water assessment criteria, the potential risk to human health from contaminated surface and groundwater and the potential risk to the aquatic environment from entry of pollutants (either directly or via a groundwater pathway) has been assessed using commonly accepted UK guidelines including the Water Supply (Water Quality) (England) Regulations 2000 (known as the Drinking Water Standards, or DWS) and the Environmental Quality Standards (EQS) defined in European legislation such as the Water Framework Directive (WFD) (2000/60/EC).

Minimum reporting values are also considered for hazardous substances for assessment of risks to groundwater resources in order to comply with the requirements of the guidance to 'prevent' input of hazardous substances to groundwater.

4. GROUND GAS RISK ASSESSMENT

Ground gas risk is characterised using guidance provided in the following:

- CIRIA C665, 2007. Assessing risks posed by hazardous ground gases to buildings. (Supersedes CIRIA 659).
- NHBC / RSK, 2007. Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present. Report Ed 4.
- BS8485: 2015 Code of practice for the characterization and remediation from ground gas in affected developments.
- BS8576:2013. Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)

The risk posed by a gas regime is assessed initially by calculating a Gas Screening Value using a combination of the gas flow rate and recorded concentrations of carbon dioxide and methane. This Gas Screening Value is then used in combination with the maximum recorded gas concentrations to determine the site's Characteristic Situation (CIRIA 665 – all site uses except low rise residential) or Traffic Light Classification (NHBC/RSK 2007 low rise residential sites only). Table A below outlines the method for defining the Characteristic Situation as detailed in CIRIA 665 and Table B outlines the method for defining the Traffic Light classification as detailed in NHBC/RSK 2007.

Table A: Proposed method for classifying gassing sites (after CIRIA C665 2007)

Characteristic Situation	Risk classification	Gas screening value of CH_4 or CO_2 (l/hr)[a]	Additional limiting 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, inert waste (WMP 26B criteria)
5	High risk	<70	-	Mineworking unflooded inactive with shallow workings near surface
6	Very high risk	>70	-	Recent landfill site

[a] Gas screening value = gas concentration (%) x measured borehole flow rate (l/hr)

Table B: Proposed method for classifying gassing sites (after NHBC/RSK 2007)

Traffic Light	Methane1		Carbon Dioxide1	
	Typical Maximum Concentration5 (%v/v)	Gas Screening Value (GSV)2,4,6 litres per hour	Typical Maximum Concentration5	Gas Screening Value (GSV)2,3,4,5

			(%v/v)	litres per hour
Green				
Amber 1	1	0.16	5	0.78
Amber 2	5	0.63	10	1.56
Red	20	1.56	30	3.13

The CIRIA, NHBC and BS8485 guidance documents are then used to determine requirements for gas protection measures based on the site classification.

5. WATER SUPPLY PIPES

The assessment has been completed in accordance with the current UK guidance:

- Water UK. Jan 2014. Contaminated Land Assessment Guidance.
- UKWIR UK Water Industry Research Ltd, 2010. Guidance for Selection of Water Supply Pipes to be used in Brownfield Sites.

This guidance provides threshold concentrations for different pipe material for various chemical groups.

The pipeline materials considered by the guidance are PE, PVC, wrapped steel, wrapped ductile iron or copper pipe and barrier pipe. PE and PVC are assessed using threshold concentrations for various chemical groups including volatile organic compounds (VOC) with tentatively identified compounds (TICs), semi-volatile organic compounds (SVOC) with TICs, and mineral oils. Wrapped steel, wrapped ductile iron and copper pipe are assessed using corrosive properties.

Regional water companies may have adopted additional more stringent thresholds which they apply locally, thus consultation with the water authority must always be completed prior to final determination of water supply pipe materials.

6. WASTE CLASSIFICATION

The main steps in classifying waste are:

1. Is it really a waste or can it be reused, recycled or recovered?
2. If the material is not to be utilised in some way and it is waste then classify to ascertain if hazardous or non-hazardous. In order to do this, guidance regarding the definition and classification of hazardous waste is utilised, the two main documents being EA, 2015 'Technical Guidance WM3: Waste Classification - Guidance on the classification and assessment of waste' and the European Waste Catalogue (EWC 2002).
3. Use the results of this initial waste classification to follow one of the following routes:

<table>
<tr><th colspan="3">Hazardous</th><th colspan="2">Non-Hazardous</th><th></th></tr>
<tr><td colspan="3">Pre-treat the waste.</td><td colspan="2">Thought likely to be inert:
(e.g. insoluble and inorganic in nature)</td><td>Thought unlikely to be inert:
(e.g. may contain peat or other high organic content material)</td></tr>
<tr><td colspan="3">Complete WAC (Waste Acceptance Criteria) testing to determine class of landfill it can go to or any requirement for further pre-treatment if WAC fails.</td><td colspan="2">Complete WAC test to determine class of landfill it can be disposed to</td><td>-</td></tr>
<tr><td>Pass stable non-reactive hazardous WAC: dispose of at SNRHW landfill.</td><td>Pass hazardous WAC: dispose of at hazardous landfill.</td><td>Fail: further remedial action required</td><td>Pass: dispose of at inert landfill</td><td>Fail: dispose of at non-hazardous landfill</td><td>Dispose to non-hazardous landfill (no WAC testing required by WM3).</td></tr>
</table>

The landfill regulations (Environment Agency, 2011 Treatment of Waste for Landfill) prescribe that hazardous waste requires pre-treatment prior to disposal to landfill. This may include physical sorting at the point of production on site, by sorting of waste soils into separate stockpiles of eg topsoil, made ground and natural gravels.

6.1. Methodology

In terms of the EWC, the soil to be excavated from this site for disposal is classed as 'Soil and Stones containing Dangerous Substances' (EWC Code 170503) or 'Soil and Stones other than those mentioned in EWC Code 170503' (EWC Code 170504). As such it is what is known as a 'Mirror Entry waste' and needs to be assessed against Threshold Levels for certain dangerous substances in order to confirm whether it needs to be classified as hazardous (170503) or non-hazardous (170504).

Data from site soil chemical testing have been assessed to classify the site soils. The assessment has been undertaken using HazWasteOnline ™, a web-based tool for classifying waste. The software utilises Environment Agency guidance and European regulations to classify samples in line with current requirements.

The assessment provided in this report fulfils the requirement of step 2 above, and allows classification of the site soils and hazardous or non-hazardous.

Asbestos: The Hazardous Waste (England and Wales) Regulations 2005 requires that any waste having an asbestos content greater than 0.1% weight/weight (w/w) be classified as Hazardous Waste. Any waste with an asbestos content of less than 0.1% w/w can be classified as non-hazardous waste, unless there are other contaminants present which would make the waste hazardous.

Where fibrous asbestos is present at concentrations greater than 0.001%, these can be considered to pose a risk to human health and must be dealt with as hazardous soils for disposal purposes.

Where the asbestos is deemed to be of a fibrous nature the Health and Safety Executive (HSE) require that the handling of the material is undertaken by a suitably licensed company. The Carriage of Dangerous Goods (etc.) Regulations 2009 (CDG2009) applies in this instance.

Appendix E

SCREENING SUMMARY TABLES AND STATISTICAL ANALYSIS

					MG	MG	MG	RTD	MG	MG	LC	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	LC
Lab Certificate					18-90251-1	18-87658-1	18-87658-1	18-87658-1	18-89730-1	18-90086-1	18-90086-1	18-89730-1	18-89730-1	18-87323-1	18-89114-1	18-89111-1	18-89114-1	18-87157-1	18-87157-1	18-87157-1	18-87020-1	18-87020-1	18-86953-1	18-86953-1	18-86953-1
Lab Sample Number					988737	973689	973690	973691	986190	987981	987982	986191	986192	971897	982324	982312	982323	970902	970903	970904	969980	969981	969553	969554	969555
Sample Reference					BH01	BH02C	BH02C	BH02C	BH03	BH03	BH03	BH04	BH04	OP01	TP03	TP05	TP07	WS01	WS01	WS01	WS02	WS02	WS03	WS03	WS03
Depth (m)				Tier 2 Screening Value	0.50	1.00	2.00	2.50	0.50	2.50	4.70	0.50	1.00	0.30	0.30	0.30	0.20	0.20	0.50	3.10	0.70	2.15	0.20	0.70	3.15
Strata																									
Date Sampled					20/06/2018	30/05/2018	31/05/2018	31/05/2018	15/06/2018	19/06/2018	19/06/2018	15/06/2018	15/06/2018	30/05/2018	11/06/2018	12/06/2018	11/06/2018	25/05/2018	25/05/2018	25/05/2018	24/05/2018	24/05/2018	23/05/2018	23/05/2018	23/05/2018
Analytical Parameter	Units	Limit of Detection	Accreditation Status	GAC - Commercial																					
Asbestos																									
Asbestos Screen	Type	N/A	A001-PL		Detected	Not-detected	Not-detected	Not-detected	Not-detected	Detected	Not-detected	Detected	Not-detected	Detected	Not-detected	Not-detected	Not-detected	Detected	Detected	Detected	Not-detected	Not-detected	Detected	Detected	Not-detected
BTEX, MTBE																									
Benzene (TPH Aromatic C5-7)	ug/kg	1	L073B-PL	15,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Ethylbenzene	µg/kg	1	L073B-PL	3,200,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Methyl tert-butyl ether	µg/kg	1	L073B-PL	3,800,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Toluene (TPH Aromatic C7-8)	µg/kg	1	L073B-PL	33,000,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Xylene, m & p -	µg/kg	1	L073B-PL	3,300,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Xylene-o	µg/kg	1	L073B-PL	3,700,000			<1			<1		<1		<1		<1	<1		<1		<1	<1	<1	<1	
Inorganics																									
Ammonium (NH4)	mg/kg	0.5	L082-PL		0.8	<0.5	2.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	6.3	<0.5	<0.5	<0.5
Cyanide	mg/kg	1	L080-PL	49	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Free Cyanide	mg/kg	1	L080-PL		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Moisture Content	%	N/A	L019-UK/PL		7.5	6.3	9.9	8.6	8.7	9.6	22	14	17	6.1	20	13	23	13	11	12	11	13	9.8	15	16
pH	pH Units	N/A	L099-PL		10.6	7.6	11.6	8.7	9.8	10.6	8	9	8.5	12.1	8.9	11.7	9.4	10.7	10.8	9	8.5	8.2	10.8	8.5	8.1
Soil Organic Matter	%	0.1	L009-PL		1.2	3.5	2.1	0.7	0.6	1.5	0.8	1.3	0.5	2.9	0.6	0.7	0.7	1.8	0.5	2.3	1.5	2.5	0.9	1.7	0.3
Sulphate (SO4)	g/l	0.00125	L038-PL		1.7	0.1	0.12	0.095	0.31	1.7	0.45	0.057	0.028	0.013	0.15	0.063	0.067	0.29	0.71	1.7	0.041	0.37	0.097	0.13	0.11
Sulphide	mg/kg	1	L010-PL		6.8	4.4	3.1	<1	3.5	17	<1	1.2	<1	11	<1	9	<1	<1	4	17	2.1	86	2.9	<1	<1
Total Ammonia (NH3)	mg/kg	0.5	L082-PL		0.7	<0.5	2.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	6	<0.5	<0.5	<0.5
Metals																									
Antimony	mg/kg	1	L038-PL	7,400	2.4	2.7	2	1.7	12	4.2	1.5	4.9	2.7	4.6	1.9	<1	1.6	18	8.7	6	3.4	1.3	9.7	3.5	1.8
Arsenic	mg/kg	1	L038-PL	640	12	17	17	13	19	7.8	11	14	15	11	11	10	16	13	10	15	13	8.2	17	17	15
Barium	mg/kg	1	L038-PL	22,000	150	240	260	44	340	110	62	160	130	190	87	130	58	540	360	330	63	71	570	140	78
Boron	mg/kg	0.2	L038-PL	240,000	1.5	1.4	0.5	0.8	2.2	0.9	1.5	0.4	1	1.3	1.3	5.2	2.4	2.4	2.4	1.2	0.9	2.1	1.1	1.9	1.2
Cadmium	mg/kg	0.2	L038-PL	410	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (Total)	mg/kg	1	L038-PL	8,600	23	15	17	18	29	20	44	15	35	18	46	22	37	32	21	32	13	15	30	23	41
Chromium VI	mg/kg	4	L080-PL	49	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Copper	mg/kg	1	L038-PL	68,000	47	80	59	20	35	17	29	59	32	43	32	27	34	61	25	25	83	36	140	75	25
Lead	mg/kg	1	L038-PL	2,300	150	1,300	550	150	270	110	14	500	320	130	24	270	49	590	240	230	480	84	900	570	14
Mercury	mg/kg	0.3	L038-PL	1,100	<0.3	1.8	1.3	0.5	2.4	1.2	<0.3	1.3	<0.3	0.7	<0.3	<0.3	0.9	<0.3	1.2	7.8	2.9	<0.3	0.7	2.1	<0.3
Mercury	mg/kg	0.001	L085-PL	1,100																					0.03
Molybdenum	mg/kg	0.25	L038-PL	18,000	0.91	1.6	1.8	2.3	0.3	0.33	<0.25	0.54	<0.25	0.85	<0.25	0.42	<0.25	0.8	0.4	0.92	0.81	0.75	0.51	0.75	0.83
Nickel	mg/kg	1	L038-PL	980	19	18	17	16	17	14	39	16	35	14	37	18	38	19	14	20	15	11	20	21	56
Selenium	mg/kg	1	L038-PL	12,000	<1	<1	<1	<1	<1	1.8	<1	<1	<1	<1	1.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	mg/kg	1	L038-PL	9,000	27	37	32	27	51	31	77	34	63	26	68	43	62	40	32	53	33	33	43	46	67
Zinc	mg/kg	1	L038-PL	730,000	62	81	87	25	300	270	78	120	86	240	79	51	75	560	330	460	52	35	340	93	57
Misc																									
Anthraquinone, 9,10-	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Trichloro-1,2,2-trifluoroethane, 1,1,2-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Others																									
Aniline	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Asbestos in Soil Screen / Identification Name	Type	N/A	A001-PL		Amosite loose fibres					Chrysotile loose fibrous debris		Chrysotile hard/cement type material & loose fibrous debris		Chrysotile loose fibres				Chrysotile hard/cement type material & loose fibrous debris	Chrysotile hard/cement type material	Chrysotile loose fibrous debris			Chrysotile loose fibres & loose fibrous debris & bitumen	Chrysotile loose fibres	
Asbestos Quantification	%	0.001	A006-PL		<0.001					0.045		0.106		<0.001				0.3	0.002	0.069			0.012	<0.001	
Asbestos Quantification (Stage 2)	%	0.001	A006-PL		<0.001					0.045		0.106		<0.001				0.3	0.002	0.069			0.012	<0.001	
Benzene	ug/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
Catechol	mg/kg	0.1	L030-PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cresols	mg/kg	0.3	L030-PL		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	µg/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
Ethylphenol & Dimethylphenol	mg/kg	0.3	L030-PL		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Isopropylphenol	mg/kg	0.1	L030-PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (aqua regia extractable)	mg/kg	1	L038-PL		230	200	280	290	280	240	370	250	310	270	390	300	340	360	230	220	220	130	320	330	230
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
Naphthols	mg/kg	0.2	L030-PL		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	µg/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
p & m-xylene	µg/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
Resorcinol	mg/kg	0.1	L030-PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Stone Content	%	0.1	L019-UK/PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	µg/kg	1	L073B-PL			<1	<1	<1	<1			<1	<1		<1		<1	<1	<1	<1					
Total mass of sample received	kg	0.001	L019-UK/PL		1.9	1.4	1.4	1.4	2	2	1.6	2	1.8	1.6	2	1.7	2	2	2	1.4	2	2	2	2	2
Total Sulphur	%	0.005	L038		0.289	0.043	0.093	0.016	0.134	2.9	0.046	0.056	0.018		0.032	0.71	0.077	0.144	0.191	0.812	0.032	0.249	0.104	0.057	0.01
Total Sulphur	mg/kg	50	L038-PL											1,800											
TPH C10 - C40	mg/kg	10	L076-PL		870	<10	440	170	190	930	33	17	<10	4,400	<10	70	<10	170	160	1,100	<10	42	97	<10	<10
TPH C6 - C40	mg/kg	10	L076-PL		870	<10	440	170	190	930	33	17	<10	4,400	<10	70	<10	170	160	1,100	<10	42	97	<10	<10
TPH2 (C6 - C10)	mg/kg	0.1	L088-PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	L088/76-PL			<10	170	79	65	230		<10	<10	200	<10	<10	<10	56	100	440	<10	<10	30	<10	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	L088/76-PL			<10	190	64	96	510		16	<10	3,900	<10	62	<10	100	62	610	<10	42	67	<10	
Polyaromatic Hydrocarbons (PAHs)																									
Acenaphthene	mg/kg	0.05	L064-PL	75,000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8.1	<0.05	<0.05	<0.05	0.91	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	mg/kg	0.05	L064-PL	76,000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	mg/kg	0.05	L064-PL	520,000	0.1	<0.05	<0.05	<0.05	0.18	0.24	<0.05	<0.05	<0.05	48	<0.05	0.26	<0.05	0.88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene [use BaP surrogate]	mg/kg	0.05	L064-PL	170	0.37	<0.05	<0.05	<0.05	0.95	0.96	<0.05	0.36	<0.05	110	<0.05	2.8	<0.05	2.8	0.31	<0.05	<0.05	<0.05	0.63	<0.05	<0.05
Benzo(a)pyrene	mg/kg	0.05	L064-PL	76	0.43	<0.05	<0.05	<0.05	1.1	1	<0.05	0.46	<0.05	85	<0.05	2.4	<0.05	2.3	0.33	<0.05	<0.05	<0.05	0.58	<0.05	<0.05
Benzo(b)fluoranthene [use BaP surrogate]	mg/kg	0.05	L064-PL	45	0.52	<0.05	<0.05	<0.05	1.4	1	<0.05	0.49	<0.05	79	<0.05	3.2	<0.05	3.1	0.53	<0.05	<0.05	<0.05	0.71	<0.05	<0.05
Benzo(ghi)perylene [use BaP surrogate]	mg/kg	0.05	L064-PL	3,900	0.25	<0.05	<0.05	<0.05	0.9	0.6	<0.05	0.36	<0.05	46	<0.05	1.7	<0.05	1.6	<0.05	<0.05	<0.05	<0.05	0.39	<0.05	<0.05
Benzo(k)fluoranthene [use BaP surrogate]	mg/kg	0.05	L064-PL	1,200	0.23	<0.05	<0.05	<0.05	0.6	0.59	<0.05	0.36	<0.05	60	<0.05	1.2	<0.05	1.3	0.19	<0.05	<0.05	<0.05	0.36	<0.05	<0.05
Chrysene [use BaP surrogate]	mg/kg	0.05	L064-PL	350	0.32	<0.05	<0.05	<0.05	1.3	0.79	<0.05	0.62	<0.05	82	<0.05	2.8	<0.05	2.2	0.37	<0.05	<0.05	<0.05	0.45	<0.05	<0.05
Dibenz(ah)anthracene [use BaP surrogate]	mg/kg	0.05	L064-PL	3.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	12	<0.05	0.43	<0.05	0.34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	mg/kg	0.05	L064-PL	23,000	0.68	<0.05	<0.05	<0.05	2.2	1.9	<0.05	0.82	<0.05	260	<0.05	6.3	<0.05	5.2	0.69	<0.05	<0.05	<0.05	1	<0.05	<0.05
Fluorene	mg/kg	0.05	L064-PL	60,000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8.3	<0.05	<0.05	<0.05	0.51	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(123-cd)pyrene [use BaP surrogate]	mg/kg	0.05	L064-PL	510	0.19	<0.05	<0.05	<0.05	0.59	0.46	<0.05	0.27	<0.05	45	<0.05	1.3	<0.05	1.3	<0.05	<0.05	<0.05	<0.05	0.3	<0.05	<0.05
Naphthalene	mg/kg	0.05	L064-PL	110	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	mg/kg	0.05	L064-PL	22,000	0.28	<0.05	<0.05	<0.05	0.7	1.1	<0.05	0.22	<0.05	160	<0.05	2.1	<0.05	1.9	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	mg/kg	0.05	L064-PL	54,000	0.56	<0.05	<0.05	<0.05	1.9	1.7	<0.05	0.74	<0.05	220	<0.05	5	<0.05	4.8	0.64	<0.05	<0.05	<0.05	1	<0.05	<0.05
Total PAHs EPA16	mg/kg	0.8	L064-PL		3.93	<0.8	<0.8	<0.8	11.8	10.4	<0.8	4.7	<0.8	1,220	<0.8	29.5	<0.8	29.1	3.29	<0.8	<0.8	<0.8	5.49	<0.8	<0.8
Phenols																									
Methylphenol-2	mg/kg	0.3	L064-PL	160,000			<0.3					<0.3					<0.3		<0.3						
Methylphenol-4	mg/kg	0.2	L064-PL	160,000			<0.2					<0.2					<0.2		<0.2						
Phenol	mg/kg	0.1	L030-PL	380	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenol	mg/kg	0.2	L064-PL	380			<0.2					<0.2					<0.2		<0.2						
Semi Volatile Organic Compounds (SVOCs)																									
Azobenzene	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Bis (2-chloroethoxy) methane	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Bis (2-chloro-ethyl) ether	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Bis (2-chloroisopropyl) ether	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Bromophenyl phenylether, 4-	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Butyl benzyl phthalate	mg/kg	0.3	L064-PL	940,000			<0.3					<0.3					<0.3		<0.3						
Carbazole	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Chloro-3-methylphenol, 4-	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Chloroaniline, p-	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Chloronaphthalene-2	mg/kg	0.1	L064-PL	210			<0.1					<0.1					<0.1		<0.1						
Chlorophenol-2	mg/kg	0.1	L064-PL	3,600			<0.1					<0.1					<0.1		<0.1						
Chlorophenyl phenylether, 4-	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Dibenzofuran	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Dichlorophenol-2,4	mg/kg	0.3	L064-PL	3,500			<0.3					<0.3					<0.3		<0.3						
Diethyl Phthalate	mg/kg	0.2	L064-PL	120,000			<0.2					<0.2					<0.2		<0.2						
Dimethylphenol-2,4	mg/kg	0.3	L064-PL	13,000			<0.3					<0.3					<0.3		<0.3						
Dimethylphthalate	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Di-n-butyl phthalate	mg/kg	0.2	L064-PL	15,000			<0.2					<0.2					<0.2		<0.2						
Dinitrotoluene-2,4	mg/kg	0.2	L064-PL	3,700			<0.2					<0.2					<0.2		<0.2						
Dinitrotoluene-2,6	mg/kg	0.1	L064-PL	1,900			<0.1					<0.1					<0.1		<0.1						
Hexachlorobenzene	mg/kg	0.3	L064-PL	91			<0.3					<0.3					<0.3		<0.3						
Hexachloroethane	mg/kg	0.05	L064-PL	11			<0.05					<0.05					<0.05		<0.05						
Isophorone	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Methylnaphthalene, 2-	mg/kg	0.1	L064-PL				<0.1					<0.1					<0.1		<0.1						
Nitroaniline, 4-	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Nitrobenzene	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Nitrophenol, 2-	mg/kg	0.3	L064-PL				<0.3					<0.3					<0.3		<0.3						
Total Phenols	mg/kg	1.3	L030-PL	380	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Trichlorophenol, 2,4,5-	mg/kg	0.2	L064-PL				<0.2					<0.2					<0.2		<0.2						
Trichlorophenol-2,4,6	mg/kg	0.1	L064-PL	4,000			<0.1					<0.1					<0.1		<0.1						
Trimethylphenols	mg/kg	0.1	L030-PL		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Petroleum Hydrocarbons (TPH)																									
TPH Aliphatic C05-06	mg/kg	0.001	L088/76-PL	2,400		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aliphatic C06-08	mg/kg	0.001	L088/76-PL	5,300		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aliphatic C08-10	mg/kg	0.001	L088/76-PL	1,300		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aliphatic C10-12	mg/kg	1	L088/76-PL	6,100		<1	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
TPH Aliphatic C12-16	mg/kg	2	L088/76-PL	43,000		<2	7.3	2.7	<2	5.7		<2	<2	15	<2	<2	<2	<2	4	8.3	<2	<2	<2	<2	
TPH Aliphatic C16-21 [1] Check Sum Value	mg/kg	8	L088/76-PL	1,000,000		<8	17	<8	9.8	31		<8	<8	39	<8	<8	<8	<8	17	65	<8	<8	<8	<8	
TPH Aliphatic C21-35 [1] Check Sum Value	mg/kg	8	L088/76-PL	1,000,000		<8	150	69	54	200		<8	<8	150	<8	<8	<8	50	79	360	<8	<8	30	<8	
TPH Aromatic C05-07 (Benzene)	mg/kg	0.001	L088/76-PL	15		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aromatic C07-08 (Toluene)	mg/kg	0.001	L088/76-PL	33,000		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aromatic C08-10	mg/kg	0.001	L088/76-PL	2,200		<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
TPH Aromatic C10-12	mg/kg	1	L088/76-PL	11,000		<1	1.9	<1	<1	<1		<1	<1	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
TPH Aromatic C12-16	mg/kg	2	L088/76-PL	35,000		<2	6.8	2.8	4.7	3.5		<2	<2	140	<2	<2	<2	<2	<2	3.2	<2	14	<2	<2	
TPH Aromatic C16-21	mg/kg	10	L088/76-PL	29,000		<10	18	<10	19	38		<10	<10	1,300	<10	16	<10	26	14	67	<10	<10	<10	<10	
TPH Aromatic C21-35	mg/kg	10	L088/76-PL	29,000		<10	170	52	72	470		12	<10	2,400	<10	46	<10	74	48	540	<10	18	59	<10	
Volatile Organic Compounds (VOCs)																									
Bromobenzene	µg/kg	1	L073B-PL	51,000			<1					<1					<1		<1						
Bromodichloromethane	µg/kg	1	L073B-PL	1,000			<1					<1					<1		<1						
Bromoform	µg/kg	1	L073B-PL	390,000			<1					<1					<1		<1						
Bromomethane	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Butylbenzene, n-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Butylbenzene, sec-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Butylbenzene, tert-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Chlorobenzene	µg/kg	1	L073B-PL	31,000			<1					<1					<1		<1						
Chloroethane	µg/kg	1	L073B-PL	530,000			<1					<1					<1		<1						
Chloroethene (Vinyl Chloride)	µg/kg	1	L073B-PL	38			<1					<1					<1		<1						
Chloromethane	µg/kg	1	L073B-PL	560			<1					<1					<1		<1						
Chlorotoluene, 2-	µg/kg	1	L073B-PL	3,200,000			<1					<1					<1		<1						
Chlorotoluene, 4-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dibromo-3-chloropropane, 1,2- (DBCP)	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dibromochloromethane	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dibromoethane, 1,2-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dibromomethane	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dichlorobenzene-1,2	mg/kg	0.1	L064-PL	1,100			<0.1					<0.1					<0.1		<0.1						
Dichlorobenzene-1,2	µg/kg	1	L073B-PL	1,100,000			<1					<1					<1		<1						
Dichlorobenzene-1,3	mg/kg	0.2	L064-PL	17			<0.2					<0.2					<0.2		<0.2						
Dichlorobenzene-1,3	µg/kg	1	L073B-PL	17,000			<1					<1					<1		<1						
Dichlorobenzene-1,4	mg/kg	0.2	L064-PL	2,400			<0.2					<0.2					<0.2		<0.2						
Dichlorobenzene-1,4	µg/kg	1	L073B-PL	2,400,000			<1					<1					<1		<1						
Dichloroethane-1,1	µg/kg	1	L073B-PL	140,000			<1					<1					<1		<1						
Dichloroethane-1,2	µg/kg	1	L073B-PL	340			<1					<1					<1		<1						
Dichloroethene-1,1,	µg/kg	1	L073B-PL	14,000			<1					<1					<1		<1						
Dichloroethene-1,2-cis	µg/kg	1	L073B-PL	7,300			<1					<1					<1		<1						
Dichloroethene-1,2-trans	µg/kg	1	L073B-PL	12,000			<1					<1					<1		<1						
Dichloropropane, 1,2-	µg/kg	1	L073B-PL	1,600			<1					<1					<1		<1						
Dichloropropane, 1,3-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dichloropropane, 2,2- (R220a)	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dichloropropene, 1,1-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dichloropropene, 1,3-cis	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Dichloropropene, 1,3-trans	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Hexachloro-1,3-butadiene	mg/kg	0.1	L064-PL	17			<0.1					<0.1					<0.1		<0.1						
Hexachloro-1,3-butadiene	µg/kg	1	L073B-PL	17,000			<1					<1					<1		<1						
Iso-propylbenzene	µg/kg	1	L073B-PL	710,000			<1					<1					<1		<1						
Isopropyltoluene, 4-	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Propylbenzene	µg/kg	1	L073B-PL	2,100,000			<1					<1					<1		<1						
Styrene	µg/kg	1	L073B-PL	1,900,000			<1					<1					<1		<1						
Tetrachloroethane-1,1,1,2	µg/kg	1	L073B-PL	59,000			<1					<1					<1		<1						
Tetrachloroethane-1,1,2,2	µg/kg	1	L073B-PL	150,000			<1					<1					<1		<1						
Tetrachloroethene	µg/kg	1	L073B-PL	10,000			<1					<1					<1		<1						
Tetrachloromethane (Carbon Tetrachloride)	µg/kg	1	L073B-PL	1,600			<1					<1					<1		<1						
Trichlorobenzene-1,2,3	µg/kg	1	L073B-PL	55,000			<1					<1					<1		<1						
Trichlorobenzene-1,2,4	mg/kg	0.3	L064-PL	120			<0.3					<0.3					<0.3		<0.3						
Trichlorobenzene-1,2,4	µg/kg	1	L073B-PL	120,000			<1					<1					<1		<1						
Trichloroethane-1,1,1	µg/kg	1	L073B-PL	370,000			<1					<1					<1		<1						
Trichloroethane-1,1,2	µg/kg	1	L073B-PL	48,000			<1					<1					<1		<1						
Trichloroethene	µg/kg	1	L073B-PL	680			<1					<1					<1		<1						
Trichlorofluoromethane	µg/kg	1	L073B-PL				<1					<1					<1		<1						
Trichloromethane (Chloroform)	µg/kg	1	L073B-PL	53,000			<1					<1					<1		<1						
Trimethylbenzene-1,2,4	µg/kg	1	L073B-PL	22,000			<1					<1					<1		<1						
Trimethylbenzene-1,3,5	µg/kg	1	L073B-PL	12,000			<1					<1					<1		<1						

MG	Made Ground
RTD	River Terrace Deposits
LC	London Clay

Analytical Report Number: 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1536						**Round 1**	**Round 2**
Lab Sample Number						1025276	1029384
Sample Reference						BH02C	BH02C
Sample Number						None Supplied	None Supplied
Depth (m)						None Supplied	None Supplied
Date Sampled						16/08/2018	21/08/2018
Time Taken						None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**Minimum Reporting Values**	**General Quality of GW Body**		
General Inorganics							
pH	pH Units	N/A	ISO 17025			7.7	7.7
Total Cyanide	µg/l	10	ISO 17025		50	24	< 10
Sulphate as SO_4	µg/l	45	ISO 17025		188,000	947000	1160000
Sulphate as SO_4	mg/l	0.045	ISO 17025		188	947	1160
Sulphide	µg/l	5	NONE			< 5.0	< 5.0
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025			670	600
Ammonia as NH_3	µg/l	15	ISO 17025			810	
Ammonium as NH_4	µg/l	15	ISO 17025		500	860	770
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE			4.32	5.00
Hardness - Total	mgCaCO3/l	1	ISO 17025			749	913
Phenols by HPLC							
Catechol	µg/l	0.5	NONE			< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE			< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE			< 0.5	< 0.5
Cresols	µg/l	0.5	NONE			< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE			< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE			< 0.5	< 0.5
Phenol	µg/l	0.5	NONE			< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE			< 0.5	< 0.5
Total Phenols							
Total Phenols (HPLC)	µg/l	3.5	NONE			< 3.5	< 3.5
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025		0.0075	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025			< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025			< 0.16	< 0.16

Analytical Report Number: 18-96788

Project / Site name: Eastman Dental Institute - 256 Grays Inn Road

Your Order No: CL1536

						Round 1	**Round 2**
Lab Sample Number						1025276	1029384
Sample Reference						BH02C	BH02C
Sample Number						None Supplied	None Supplied
Depth (m)						None Supplied	None Supplied
Date Sampled						16/08/2018	21/08/2018
Time Taken						None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**Minimum Reporting Values**	**General Quality of GW Body**		
Heavy Metals / Metalloids							
Magnesium (dissolved)	mg/l	0.005	ISO 17025			84	100
Antimony (dissolved)	µg/l	0.4	ISO 17025		5	0.8	1.0
Arsenic (dissolved)	µg/l	0.15	ISO 17025		7.5	1.34	1.63
Barium (dissolved)	µg/l	0.06	ISO 17025			13	12
Boron (dissolved)	µg/l	10	ISO 17025		750	940	1300
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.1	3.75	0.04	< 0.02
Calcium (dissolved)	mg/l	0.012	ISO 17025			160	200
Chromium (hexavalent)	µg/l	5	ISO 17025			< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.2	ISO 17025		37.5	0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025		1500	1.6	< 0.5
Lead (dissolved)	µg/l	0.2	ISO 17025		7.5	0.3	< 0.2
Magnesium (dissolved)	mg/l	0.005	ISO 17025			84	100
Manganese (dissolved)	µg/l	0.05	ISO 17025		50	68	80
Mercury (dissolved) CV-AFS	ug/l	0.005	ISO 17025	0.01	0.75	< 0.0050	< 0.0050
Molybdenum (dissolved)	µg/l	0.05	ISO 17025			13	12
Nickel (dissolved)	µg/l	0.5	ISO 17025		15	4.4	3.9
Selenium (dissolved)	µg/l	0.6	ISO 17025		7.5	9.4	10
Vanadium (dissolved)	µg/l	0.2	ISO 17025			2.6	2.7
Zinc (dissolved)	µg/l	0.5	ISO 17025			5.4	2.9
Monoaromatics							
Benzene	µg/l	1	ISO 17025			< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	4		< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025			< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	3		< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	3		< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025			< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH1 (C10 - C40)	µg/l	10	NONE			< 10	< 10
TPH2 (C6 - C10)	µg/l	10	ISO 17025			< 10	< 10
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025			< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE			< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE			< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 18-86953

Project / Site name: Eastman Dental Institute- 256 Grays Inn Road

Your Order No: CL1451

						Made Ground	Made Ground	Made Ground
Lab Sample Number						969556	973693	986194
Sample Reference						WS03	BH02C	BH04
Sample Number						None Supplied	None Supplied	None Supplied
Depth (m)						0.70	1.00	0.50
Date Sampled						23/05/2018	30/05/2018	15/06/2018
Time Taken						None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	**Minimum Reporting Values**	**General Quality of GW Body**			
General Inorganics								
pH	pH Units	N/A	ISO 17025			7.7	7.7	7.8
Total Cyanide	µg/l	10	ISO 17025		50	< 10	< 10	< 10
Sulphate as SO_4	mg/l	0.1	ISO 17025		188	30.2	12.6	3.3
Sulphide	µg/l	5	NONE			< 5.0	< 5.0	< 5.0
Ammoniacal Nitrogen as N	µg/l	15	NONE			< 15	560	< 15
Ammonium as NH_4	µg/l	15	NONE		500	< 15	720	16
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE			4.89	7.10	3.96
Hardness - Total	mgCaCO3/l	1	NONE			42.4	31.2	30.1
Phenols by HPLC								
Catechol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Isopropylphenol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE			< 0.5	< 0.5	< 0.5
Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE			< 3.5	< 3.5	< 3.5
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025		0.075	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025			< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025		0.0075	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE			< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE			< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE			< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE			< 0.2	< 0.2	< 0.2
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	1.7	ISO 17025		5	< 1.7	< 1.7	5.7
Arsenic (dissolved)	µg/l	1.1	ISO 17025		7.5	< 1.1	9.9	2.0
Barium (dissolved)	µg/l	0.05	ISO 17025			12	5.4	6.7
Boron (dissolved)	µg/l	10	ISO 17025		750	43	< 10	< 10
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.1	3.75	< 0.08	< 0.08	< 0.08
Calcium (dissolved)	mg/l	0.012	ISO 17025			16	12	12
Chromium (hexavalent)	µg/l	5	NONE			< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025		37.5	1.3	< 0.4	1.6
Copper (dissolved)	µg/l	0.7	ISO 17025		1500	8.5	12	7.8
Lead (dissolved)	µg/l	1	ISO 17025		7.5	9.4	11	14
Manganese (dissolved)	µg/l	0.06	ISO 17025		50	5.5	2.5	4.1
Magnesium (dissolved)	mg/l	0.005	ISO 17025			0.65	0.33	0.24
Mercury - CV-AFS	ug/l	0.007	ISO 17025	0.01	0.75	0.0462	0.0240	0.0540
Molybdenum (dissolved)	µg/l	0.4	ISO 17025			9.7	5.5	< 0.4
Nickel (dissolved)	µg/l	0.3	ISO 17025		15	< 0.3	0.4	< 0.3
Selenium (dissolved)	µg/l	4	ISO 17025		7.5	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025			6.3	11	13
Zinc (dissolved)	µg/l	0.4	ISO 17025			7.0	3.8	4.0
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	µg/l	10	NONE			< 10	< 10	< 10
TPH2 (C6 - C10)	µg/l	10	NONE			< 10	< 10	< 10
TPH C6 - C40	ug/l	10	NONE			< 10	< 10	< 10

Appendix F

HAZARDOUS WASTE ASSESSMENT OUTPUT

Waste Classification Report

3TR6U-EYFAZ-SAVLA

Job name

1620004664

Description/Comments

Project

Site

Waste Stream Template

Ramboll Generic Waste Stream

Classified by

Name:
Hazel Comyn
Date:
19 Jul 2018 11:01 GMT
Telephone:
07870 809 789

Company:
Ramboll UK Ltd
1 Broad Gate
The Headrow
Leeds
LS1 8EQ

Report

Created by: Hazel Comyn
Created date: 19 Jul 2018 11:01 GMT

Job summary

Classification of sample: WS03

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

Sample details

Sample Name:
WS03
Sample Depth:
0.2 m
Moisture content:
9.8%
(dry weight correction)

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: 9.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17 mg/kg	1.32	20.442 mg/kg	0.00204 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.63 mg/kg		0.574 mg/kg	0.0000574 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.58 mg/kg		0.528 mg/kg	0.0000528 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.71 mg/kg		0.647 mg/kg	0.0000647 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		0.39 mg/kg		0.355 mg/kg	0.0000355 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.36 mg/kg		0.328 mg/kg	0.0000328 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.1 mg/kg	13.43	13.454 mg/kg	0.00135 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<**LOD**
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		30 mg/kg	1.462	39.933 mg/kg	0.00399 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		0.45 mg/kg		0.41 mg/kg	0.000041 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				140	mg/kg	1.126	143.556	mg/kg	0.0144 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				1	mg/kg		0.911	mg/kg	0.0000911 %	✓	
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				0.3	mg/kg		0.273	mg/kg	0.0000273 %	✓	
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	900	mg/kg		819.672	mg/kg	0.082 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				320	mg/kg	2.749	801.039	mg/kg	0.0801 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				0.7	mg/kg	1.353	0.863	mg/kg	0.0000863 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.51	mg/kg	1.5	0.697	mg/kg	0.0000697 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				20	mg/kg	1.579	28.77	mg/kg	0.00288 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				10.8	pH		10.8	pH	10.8 pH		
				PH									
30		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				1	mg/kg		0.911	mg/kg	0.0000911 %	✓	
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				97	mg/kg		88.342	mg/kg	0.00883 %	✓	
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				43	mg/kg	1.785	69.912	mg/kg	0.00699 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				340	mg/kg	2.469	764.627	mg/kg	0.0765 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.28 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00883%)

Classification of sample: WS03[1]

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

Sample details

Sample Name:
WS03[1]
Sample Depth:
0.7 m
Moisture content:
15%
(dry weight correction)

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: 15% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17 mg/kg	1.32	19.518 mg/kg	0.00195 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.9 mg/kg	13.43	22.189 mg/kg	0.00222 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		23 mg/kg	1.462	29.231 mg/kg	0.00292 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15	confirm TPH has NOT arisen from diesel or petrol					☑					
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		75 mg/kg	1.126	73.427 mg/kg	0.00734 %	✓	
17	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
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	570 mg/kg		495.652 mg/kg	0.0496 %	✓	
24	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		330 mg/kg	2.749	788.718 mg/kg	0.0789 %	✓	
25	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		2.1 mg/kg	1.353	2.472 mg/kg	0.000247 %	✓	
26	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.75 mg/kg	1.5	0.978 mg/kg	0.0000978 %	✓	
27	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		21 mg/kg	1.579	28.843 mg/kg	0.00288 %	✓	
29	pH			PH		8.5 pH		8.5 pH	8.5 pH		
30	phenanthrene		201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
31	phenol	604-001-00-2	203-632-7	108-95-2		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
32	pyrene		204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
34	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
36	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		46 mg/kg	1.785	71.407 mg/kg	0.00714 %	✓	
37	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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
38	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		93 mg/kg	2.469	199.691 mg/kg	0.02 %	✓	
								Total:	0.175 %		

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

Classification of sample: WS03[2]

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

Sample details

Sample Name:
WS03[2]
Sample Depth:
3.15-3.50 m
Moisture content:
16%
(dry weight correction)

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: 16% Dry Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
2		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
3		anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
4		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15	mg/kg	1.32	17.073	mg/kg	0.00171 %	✓	
5		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
6		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
7		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
8		benzo[ghi]perylene		205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
9		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
10		boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.2	mg/kg	13.43	13.893	mg/kg	0.00139 %	✓	
11		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<**LOD**
12		chromium { chromium(III) oxide }		215-160-9	1308-38-9		41	mg/kg	1.462	51.658	mg/kg	0.00517 %	✓	
13		chrysene	601-048-00-0	205-923-4	218-01-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
14		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25	mg/kg	1.126	24.265	mg/kg	0.00243 %	✓	
16		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
17		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
18		fluoranthene		205-912-4	206-44-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
19		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
20		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
21		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	14	mg/kg		12.069	mg/kg	0.00121 %	✓	
22		manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		230	mg/kg	2.749	544.974	mg/kg	0.0545 %	✓	
23		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
24		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.83	mg/kg	1.5	1.073	mg/kg	0.000107 %	✓	
25		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
26		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		56	mg/kg	1.579	76.252	mg/kg	0.00763 %	✓	
27		pH			PH		8.1	pH		8.1	pH	8.1 pH		
28		phenanthrene		201-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
29		phenol	604-001-00-2	203-632-7	108-95-2		<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<**LOD**
30		pyrene		204-927-3	129-00-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
32		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
33		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		67	mg/kg	1.785	103.11	mg/kg	0.0103 %	✓	
34		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		57	mg/kg	2.469	121.336	mg/kg	0.0121 %	✓	
											Total:	0.0983 %		

Key

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

Classification of sample: WS02

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

Sample details

Sample Name:
WS02
Sample Depth:
0.7 m
Moisture content:
11%
(dry weight correction)

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: 11% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	15.463 mg/kg	0.00155 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		0.9 mg/kg	13.43	10.889 mg/kg	0.00109 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		13 mg/kg	1.462	17.117 mg/kg	0.00171 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				83	mg/kg	1.126	84.188	mg/kg	0.00842 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	480	mg/kg		432.432	mg/kg	0.0432 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				220	mg/kg	2.749	544.76	mg/kg	0.0545 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				2.9	mg/kg	1.353	3.536	mg/kg	0.000354 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.81	mg/kg	1.5	1.095	mg/kg	0.000109 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				15	mg/kg	1.579	21.345	mg/kg	0.00213 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				8.5	pH		8.5	pH	8.5 pH		
				PH									
30		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				33	mg/kg	1.785	53.073	mg/kg	0.00531 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				52	mg/kg	2.469	115.679	mg/kg	0.0116 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.132 %		

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

Classification of sample: WS02[1]

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

Sample details

Sample Name:
WS02[1]
Sample Depth:
2.15 m
Moisture content:
13%
(dry weight correction)

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: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.2 mg/kg	1.32	9.581 mg/kg	0.000958 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		2.1 mg/kg	13.43	24.958 mg/kg	0.0025 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		15 mg/kg	1.462	19.401 mg/kg	0.00194 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol		☑					
16	copper { dicopper oxide; copper (I) oxide }		36 mg/kg	1.126	35.869 mg/kg	0.00359 %	✓	
	029-002-00-X / 215-270-7 / 1317-39-1							
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }		<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5							
18	dibenz[a,h]anthracene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2 / 200-181-8 / 53-70-3							
19	ethylbenzene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4 / 202-849-4 / 100-41-4							
20	fluoranthene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	205-912-4 / 206-44-0							
21	fluorene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	201-695-5 / 86-73-7							
22	indeno[123-cd]pyrene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	205-893-2 / 193-39-5							
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	84 mg/kg		74.336 mg/kg	0.00743 %	✓	
	082-001-00-6							
24	manganese { manganese sulphate }		130 mg/kg	2.749	316.206 mg/kg	0.0316 %	✓	
	025-003-00-4 / 232-089-9 / 7785-87-7							
25	mercury { mercury dichloride }		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X / 231-299-8 / 7487-94-7							
26	molybdenum { molybdenum(VI) oxide }		0.75 mg/kg	1.5	0.996 mg/kg	0.0000996 %	✓	
	042-001-00-9 / 215-204-7 / 1313-27-5							
27	naphthalene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2 / 202-049-5 / 91-20-3							
28	nickel { nickel dihydroxide }		11 mg/kg	1.579	15.376 mg/kg	0.00154 %	✓	
	028-008-00-X / 235-008-5 [1] 234-348-1 [2] / 12054-48-7 [1] 11113-74-9 [2]							
29	pH		8.2 pH		8.2 pH	8.2 pH		
	/ / PH							
30	phenanthrene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	201-581-5 / 85-01-8							
31	phenol		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
	604-001-00-2 / 203-632-7 / 108-95-2							
32	pyrene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	204-927-3 / 129-00-0							
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	034-002-00-8							
34	toluene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3 / 203-625-9 / 108-88-3							
35	TPH (C6 to C40) petroleum group		42 mg/kg		37.168 mg/kg	0.00372 %	✓	
	/ / TPH							
36	vanadium { divanadium pentaoxide; vanadium pentoxide }		33 mg/kg	1.785	52.134 mg/kg	0.00521 %	✓	
	023-001-00-8 / 215-239-8 / 1314-62-1							
37	xylene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<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]							
38	zinc { zinc sulphate }		35 mg/kg	2.469	76.483 mg/kg	0.00765 %	✓	
	030-006-00-9 / 231-793-3 [1] 231-793-3 [2] / 7446-19-7 [1] 7733-02-0 [2]							
					Total:	0.067 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00372%)

Classification of sample: WS01

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

Sample details

Sample Name:
WS01
Sample Depth:
0.2 m
Moisture content:
13%
(dry weight correction)

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: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		0.91 mg/kg		0.805 mg/kg	0.0000805 %	✓	
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
3	anthracene		204-371-1	120-12-7		0.88 mg/kg		0.779 mg/kg	0.0000779 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	15.19 mg/kg	0.00152 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.8 mg/kg		2.478 mg/kg	0.000248 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.3 mg/kg		2.035 mg/kg	0.000204 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.1 mg/kg		2.743 mg/kg	0.000274 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		1.6 mg/kg		1.416 mg/kg	0.000142 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.3 mg/kg		1.15 mg/kg	0.000115 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		2.4 mg/kg	13.43	28.524 mg/kg	0.00285 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<**LOD**
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		32 mg/kg	1.462	41.389 mg/kg	0.00414 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		2.2 mg/kg		1.947 mg/kg	0.000195 %	✓	

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		confirm TPH has NOT arisen from diesel or petrol					☑							
16		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		61	mg/kg	1.126	60.778	mg/kg	0.00608 %	✓	
17		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
18		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.34	mg/kg		0.301	mg/kg	0.0000301 %	✓	
19		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
20		fluoranthene		205-912-4	206-44-0		5.2	mg/kg		4.602	mg/kg	0.00046 %	✓	
21		fluorene		201-695-5	86-73-7		0.51	mg/kg		0.451	mg/kg	0.0000451 %	✓	
22		indeno[123-cd]pyrene		205-893-2	193-39-5		1.3	mg/kg		1.15	mg/kg	0.000115 %	✓	
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	590	mg/kg		522.124	mg/kg	0.0522 %	✓	
24		manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		360	mg/kg	2.749	875.649	mg/kg	0.0876 %	✓	
25		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
26		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.8	mg/kg	1.5	1.062	mg/kg	0.000106 %	✓	
27		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
28		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		19	mg/kg	1.579	26.558	mg/kg	0.00266 %	✓	
29		pH			PH		10.7	pH		10.7	pH	10.7 pH		
30		phenanthrene		201-581-5	85-01-8		1.9	mg/kg		1.681	mg/kg	0.000168 %	✓	
31		phenol	604-001-00-2	203-632-7	108-95-2		<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
32		pyrene		204-927-3	129-00-0		4.8	mg/kg		4.248	mg/kg	0.000425 %	✓	
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
34		toluene	601-021-00-3	203-625-9	108-88-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
35		TPH (C6 to C40) petroleum group			TPH		170	mg/kg		150.442	mg/kg	0.015 %	✓	
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		40	mg/kg	1.785	63.192	mg/kg	0.00632 %	✓	
37		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]		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
38		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		560	mg/kg	2.469	1223.722	mg/kg	0.122 %	✓	
											Total:	0.304 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.015%)

Classification of sample: WS01[1]

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

Sample details

Sample Name:
WS01[1]
Sample Depth:
0.5 m
Moisture content:
11%
(dry weight correction)

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: 11% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10 mg/kg	1.32	11.895 mg/kg	0.00119 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.31 mg/kg		0.279 mg/kg	0.0000279 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.33 mg/kg		0.297 mg/kg	0.0000297 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.53 mg/kg		0.477 mg/kg	0.0000477 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.19 mg/kg		0.171 mg/kg	0.0000171 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		2.4 mg/kg	13.43	29.038 mg/kg	0.0029 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		21 mg/kg	1.462	27.651 mg/kg	0.00277 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		0.37 mg/kg		0.333 mg/kg	0.0000333 %	✓	

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
15	confirm TPH has NOT arisen from diesel or petrol		☑					
16	copper { dicopper oxide; copper (I) oxide }		25 mg/kg	1.126	25.358 mg/kg	0.00254 %	✓	
	029-002-00-X / 215-270-7 / 1317-39-1							
17	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }		<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5							
18	dibenz[a,h]anthracene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2 / 200-181-8 / 53-70-3							
19	ethylbenzene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4 / 202-849-4 / 100-41-4							
20	fluoranthene		0.69 mg/kg		0.622 mg/kg	0.0000622 %	✓	
	205-912-4 / 206-44-0							
21	fluorene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	201-695-5 / 86-73-7							
22	indeno[123-cd]pyrene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	205-893-2 / 193-39-5							
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	1	240 mg/kg		216.216 mg/kg	0.0216 %	✓	
	082-001-00-6							
24	manganese { manganese sulphate }		230 mg/kg	2.749	569.522 mg/kg	0.057 %	✓	
	025-003-00-4 / 232-089-9 / 7785-87-7							
25	mercury { mercury dichloride }		1.2 mg/kg	1.353	1.463 mg/kg	0.000146 %	✓	
	080-010-00-X / 231-299-8 / 7487-94-7							
26	molybdenum { molybdenum(VI) oxide }		0.4 mg/kg	1.5	0.541 mg/kg	0.0000541 %	✓	
	042-001-00-9 / 215-204-7 / 1313-27-5							
27	naphthalene		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2 / 202-049-5 / 91-20-3							
28	nickel { nickel dihydroxide }		14 mg/kg	1.579	19.922 mg/kg	0.00199 %	✓	
	028-008-00-X / 235-008-5 [1] 234-348-1 [2] / 12054-48-7 [1] 11113-74-9 [2]							
29	pH		10.8 pH		10.8 pH	10.8 pH		
	PH							
30	phenanthrene		0.23 mg/kg		0.207 mg/kg	0.0000207 %	✓	
	201-581-5 / 85-01-8							
31	phenol		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
	604-001-00-2 / 203-632-7 / 108-95-2							
32	pyrene		0.64 mg/kg		0.577 mg/kg	0.0000577 %	✓	
	204-927-3 / 129-00-0							
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	034-002-00-8							
34	toluene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3 / 203-625-9 / 108-88-3							
35	TPH (C6 to C40) petroleum group		160 mg/kg		144.144 mg/kg	0.0144 %	✓	
	TPH							
36	vanadium { divanadium pentaoxide; vanadium pentoxide }		32 mg/kg	1.785	51.465 mg/kg	0.00515 %	✓	
	023-001-00-8 / 215-239-8 / 1314-62-1							
37	xylene		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<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]							
38	zinc { zinc sulphate }		330 mg/kg	2.469	734.115 mg/kg	0.0734 %	✓	
	030-006-00-9 / 231-793-3 [1] 231-793-3 [2] / 7446-19-7 [1] 7733-02-0 [2]							
					Total:	0.184 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0144%)

Classification of sample: WS01[2]

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

Sample details

Sample Name:
WS01[2]
Sample Depth:
3.1 m
Moisture content:
12%
(dry weight correction)

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: 12% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15 mg/kg	1.32	17.683 mg/kg	0.00177 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.2 mg/kg	13.43	14.389 mg/kg	0.00144 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		32 mg/kg	1.462	41.759 mg/kg	0.00418 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				25	mg/kg	1.126	25.131	mg/kg	0.00251 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	230	mg/kg		205.357	mg/kg	0.0205 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				220	mg/kg	2.749	539.896	mg/kg	0.054 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				7.8	mg/kg	1.353	9.426	mg/kg	0.000943 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.92	mg/kg	1.5	1.232	mg/kg	0.000123 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				20	mg/kg	1.579	28.205	mg/kg	0.00282 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				9	pH		9	pH	9pH		
				PH									
30		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				1100	mg/kg		982.143	mg/kg	0.0982 %	✓	
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				53	mg/kg	1.785	84.478	mg/kg	0.00845 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				460	mg/kg	2.469	1014.175	mg/kg	0.101 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.297 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0982%)

Classification of sample: OP01

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

Sample details

Sample Name:
OP01
Sample Depth:
0.3 m
Moisture content:
6.1%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
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.: 0.415%)

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 12.1 pH)

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.: 0.415%)

Determinands

Moisture content: 6.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		acenaphthene				8.1	mg/kg		7.634	mg/kg	0.000763 %	✓	
			201-469-6	83-32-9									
2		acenaphthylene				2.3	mg/kg		2.168	mg/kg	0.000217 %	✓	
			205-917-1	208-96-8									
3		anthracene				48	mg/kg		45.24	mg/kg	0.00452 %	✓	
			204-371-1	120-12-7									
4		arsenic { arsenic trioxide }				11	mg/kg	1.32	13.689	mg/kg	0.00137 %	✓	
		033-003-00-0	215-481-4	1327-53-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
5		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
6		benzo[a]anthracene				110	mg/kg		103.676	mg/kg	0.0104 %	✓	
		601-033-00-9	200-280-6	56-55-3									
7		benzo[a]pyrene; benzo[def]chrysene				85	mg/kg		80.113	mg/kg	0.00801 %	✓	
		601-032-00-3	200-028-5	50-32-8									
8		benzo[b]fluoranthene				79	mg/kg		74.458	mg/kg	0.00745 %	✓	
		601-034-00-4	205-911-9	205-99-2									
9		benzo[ghi]perylene				46	mg/kg		43.355	mg/kg	0.00434 %	✓	
			205-883-8	191-24-2									
10		benzo[k]fluoranthene				60	mg/kg		56.55	mg/kg	0.00566 %	✓	
		601-036-00-5	205-916-6	207-08-9									
11		boron { boron tribromide/trichloride/trifluoride (combined) }				1.3	mg/kg	13.43	16.455	mg/kg	0.00165 %	✓	
				10294-33-4, 10294-34-5, 7637-07-2									
12		cadmium { cadmium sulfide }			1	1.1	mg/kg	1.285	1.332	mg/kg	0.000104 %	✓	
		048-010-00-4	215-147-8	1306-23-6									
13		chromium { chromium(III) oxide }				18	mg/kg	1.462	24.795	mg/kg	0.00248 %	✓	
			215-160-9	1308-38-9									
14		chrysene				82	mg/kg		77.286	mg/kg	0.00773 %	✓	
		601-048-00-0	205-923-4	218-01-9									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				43	mg/kg	1.126	45.63	mg/kg	0.00456 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
		006-007-00-5											
18		dibenz[a,h]anthracene				12	mg/kg		11.31	mg/kg	0.00113 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				260	mg/kg		245.052	mg/kg	0.0245 %	✓	
			205-912-4	206-44-0									
21		fluorene				8.3	mg/kg		7.823	mg/kg	0.000782 %	✓	
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				45	mg/kg		42.413	mg/kg	0.00424 %	✓	
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	130	mg/kg		122.526	mg/kg	0.0123 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				270	mg/kg	2.749	699.446	mg/kg	0.0699 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				0.7	mg/kg	1.353	0.893	mg/kg	0.0000893 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.85	mg/kg	1.5	1.202	mg/kg	0.00012 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				14	mg/kg	1.579	20.842	mg/kg	0.00208 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				12.1	pH		12.1	pH	12.1 pH		
				PH									
30		phenanthrene				160	mg/kg		150.801	mg/kg	0.0151 %	✓	
			201-581-5	85-01-8									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				220	mg/kg		207.352	mg/kg	0.0207 %	✓	
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				4400	mg/kg		4147.031	mg/kg	0.415 %	✓	
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				26	mg/kg	1.785	43.746	mg/kg	0.00437 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				240	mg/kg	2.469	558.559	mg/kg	0.0559 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.686 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.415%)

Classification of sample: BH02C

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

Sample details

Sample Name:
BH02C
Sample Depth:
1 m
Moisture content:
6.3%
(dry weight correction)

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: 6.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17 mg/kg	1.32	21.115 mg/kg	0.00211 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.4 mg/kg	13.43	17.688 mg/kg	0.00177 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		15 mg/kg	1.462	20.624 mg/kg	0.00206 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				80	mg/kg	1.126	84.733	mg/kg	0.00847 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	1300	mg/kg		1222.954	mg/kg	0.122 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				200	mg/kg	2.749	517.133	mg/kg	0.0517 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				1.8	mg/kg	1.353	2.292	mg/kg	0.000229 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				1.6	mg/kg	1.5	2.258	mg/kg	0.000226 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				18	mg/kg	1.579	26.746	mg/kg	0.00267 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				7.6	pH		7.6	pH	7.6 pH		
				PH									
30		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				37	mg/kg	1.785	62.137	mg/kg	0.00621 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				81	mg/kg	2.469	188.159	mg/kg	0.0188 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.218 %		

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

Classification of sample: BH02C[1]

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

Sample details

Sample Name:
BH02C[1]
Sample Depth:
2 m
Moisture content:
9.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 11.6 pH)

Determinands

Moisture content: 9.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number / EC Number / CAS Number							
1		acenaphthene 201-469-6 / 83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
2		acenaphthylene 205-917-1 / 208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
3		anthracene 204-371-1 / 120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
4		arsenic { arsenic trioxide } 033-003-00-0 / 215-481-4 / 1327-53-3		17 mg/kg	1.32	20.424 mg/kg	0.00204 %	✓	
5		benzene 601-020-00-8 / 200-753-7 / 71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
6		benzo[a]anthracene 601-033-00-9 / 200-280-6 / 56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
7		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3 / 200-028-5 / 50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
8		benzo[b]fluoranthene 601-034-00-4 / 205-911-9 / 205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
9		benzo[ghi]perylene 205-883-8 / 191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10		benzo[k]fluoranthene 601-036-00-5 / 205-916-6 / 207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
11		boron { boron tribromide/trichloride/trifluoride (combined) } 10294-33-4, 10294-34-5, 7637-07-2		0.5 mg/kg	13.43	6.11 mg/kg	0.000611 %	✓	
12		cadmium { cadmium sulfide } 048-010-00-4 / 215-147-8 / 1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
13		chromium { chromium(III) oxide }				17	mg/kg	1.462	22.608	mg/kg	0.00226 %	✓	
			215-160-9	1308-38-9									
14		chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				59	mg/kg	1.126	60.444	mg/kg	0.00604 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		dichloroethane { 1,1-dichloroethane and 1,2-dichloroethane (combined) }				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
20		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
21		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
22		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
23		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
24		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	550	mg/kg		500.455	mg/kg	0.05 %	✓	
		082-001-00-6											
25		manganese { manganese sulphate }				280	mg/kg	2.749	700.271	mg/kg	0.07 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
26		mercury { mercury dichloride }				1.3	mg/kg	1.353	1.601	mg/kg	0.00016 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
27		molybdenum { molybdenum(VI) oxide }				1.8	mg/kg	1.5	2.457	mg/kg	0.000246 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
28		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
29		nickel { nickel dihydroxide }				17	mg/kg	1.579	24.433	mg/kg	0.00244 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
30		pH				11.6	pH		11.6	pH	11.6 pH		
				PH									
31		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
32		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
33		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
34		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
35		tetrachloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
36		tetrachloromethane (carbon tetrachloride)				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
37		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
38		TPH (C6 to C40) petroleum group		TPH		440	mg/kg		400.364	mg/kg	0.04 %	✓	
39		trichloroethylene; trichloroethene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
40		vanadium { divanadium pentaoxide; vanadium pentoxide }				32	mg/kg	1.785	51.98	mg/kg	0.0052 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
41		vinyl chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
42		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**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]									
43		zinc { zinc sulphate }				87	mg/kg	2.469	195.477	mg/kg	0.0195 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.199 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.04%)

Classification of sample: BH02C[2]

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

Sample details

Sample Name:
BH02C[2]
Sample Depth:
2.5 m
Moisture content:
8.6%
(dry weight correction)

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: 8.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	15.805 mg/kg	0.00158 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		0.8 mg/kg	13.43	9.893 mg/kg	0.000989 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		18 mg/kg	1.462	24.225 mg/kg	0.00242 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		confirm TPH has NOT arisen from diesel or petrol					☑							
16		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	20.735	mg/kg	0.00207 %	✓	
17		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
18		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
19		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
20		fluoranthene		205-912-4	206-44-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
21		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
22		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	150	mg/kg		138.122	mg/kg	0.0138 %	✓	
24		manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		290	mg/kg	2.749	733.963	mg/kg	0.0734 %	✓	
25		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5	mg/kg	1.353	0.623	mg/kg	0.0000623 %	✓	
26		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.3	mg/kg	1.5	3.177	mg/kg	0.000318 %	✓	
27		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
28		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		16	mg/kg	1.579	23.271	mg/kg	0.00233 %	✓	
29		pH			PH		8.7	pH		8.7	pH	8.7 pH		
30		phenanthrene		201-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		phenol	604-001-00-2	203-632-7	108-95-2		<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
32		pyrene		204-927-3	129-00-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
34		toluene	601-021-00-3	203-625-9	108-88-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
35		TPH (C6 to C40) petroleum group			TPH		170	mg/kg		156.538	mg/kg	0.0157 %	✓	
36		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		27	mg/kg	1.785	44.383	mg/kg	0.00444 %	✓	
37		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]		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
38		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		25	mg/kg	2.469	56.844	mg/kg	0.00568 %	✓	
											Total:	0.123 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0157%)

Classification of sample: TP05

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

Sample details

Sample Name:
TP05
Sample Depth:
0.30-0.60 m
Moisture content:
13%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 11.7 pH)

Determinands

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

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
2		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
3		anthracene		204-371-1	120-12-7		0.26	mg/kg		0.23	mg/kg	0.000023 %	✓	
4		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	11.684	mg/kg	0.00117 %	✓	
5		benzene	601-020-00-8	200-753-7	71-43-2		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
6		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.8	mg/kg		2.478	mg/kg	0.000248 %	✓	
7		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.4	mg/kg		2.124	mg/kg	0.000212 %	✓	
8		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.2	mg/kg		2.832	mg/kg	0.000283 %	✓	
9		benzo[ghi]perylene		205-883-8	191-24-2		1.7	mg/kg		1.504	mg/kg	0.00015 %	✓	
10		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.2	mg/kg		1.062	mg/kg	0.000106 %	✓	
11		boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		5.2	mg/kg	13.43	61.802	mg/kg	0.00618 %	✓	
12		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		22 mg/kg	1.462	28.455 mg/kg	0.00285 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		2.8 mg/kg		2.478 mg/kg	0.000248 %	✓	
15	confirm TPH has NOT arisen from diesel or petrol					☑					
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	26.902 mg/kg	0.00269 %	✓	
17	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
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.43 mg/kg		0.381 mg/kg	0.0000381 %	✓	
19	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	fluoranthene		205-912-4	206-44-0		6.3 mg/kg		5.575 mg/kg	0.000558 %	✓	
21	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	indeno[123-cd]pyrene		205-893-2	193-39-5		1.3 mg/kg		1.15 mg/kg	0.000115 %	✓	
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	270 mg/kg		238.938 mg/kg	0.0239 %	✓	
24	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		300 mg/kg	2.749	729.707 mg/kg	0.073 %	✓	
25	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.42 mg/kg	1.5	0.558 mg/kg	0.0000558 %	✓	
27	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		18 mg/kg	1.579	25.16 mg/kg	0.00252 %	✓	
29	pH			PH		11.7 pH		11.7 pH	11.7 pH		
30	phenanthrene		201-581-5	85-01-8		2.1 mg/kg		1.858 mg/kg	0.000186 %	✓	
31	phenol	604-001-00-2	203-632-7	108-95-2		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
32	pyrene		204-927-3	129-00-0		5 mg/kg		4.425 mg/kg	0.000442 %	✓	
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
34	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	TPH (C6 to C40) petroleum group			TPH		70 mg/kg		61.947 mg/kg	0.00619 %	✓	
36	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		43 mg/kg	1.785	67.932 mg/kg	0.00679 %	✓	
37	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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
38		zinc { zinc sulphate }				51 mg/kg	2.469	111.446 mg/kg	0.0111 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]							
								Total:	0.14 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00619%)

Classification of sample: TP07

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

Sample details

Sample Name:
TP07
Sample Depth:
0.20-0.50 m
Moisture content:
23%
(dry weight correction)

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: 23% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	17.175 mg/kg	0.00172 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		2.4 mg/kg	13.43	26.205 mg/kg	0.00262 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		37 mg/kg	1.462	43.965 mg/kg	0.0044 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15	confirm TPH has NOT arisen from diesel or petrol					☑					
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	31.122 mg/kg	0.00311 %	✓	
17	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
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	dichloroethane { 1,1-dichloroethane and 1,2-dichloroethane (combined) }		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
20	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
21	fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
24	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	49 mg/kg		39.837 mg/kg	0.00398 %	✓	
25	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		340 mg/kg	2.749	759.766 mg/kg	0.076 %	✓	
26	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9 mg/kg	1.353	0.99 mg/kg	0.000099 %	✓	
27	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<0.25 mg/kg	1.5	<0.375 mg/kg	<0.0000375 %		<LOD
28	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
29	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		38 mg/kg	1.579	48.798 mg/kg	0.00488 %	✓	
30	pH			PH		9.4 pH		9.4 pH	9.4 pH		
31	phenanthrene		201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
32	phenol	604-001-00-2	203-632-7	108-95-2		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
33	pyrene		204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
34	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
35	tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
36	tetrachloromethane (carbon tetrachloride)	602-008-00-5	200-262-8	56-23-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
37	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
38	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
39	trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
40	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		62 mg/kg	1.785	89.985 mg/kg	0.009 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
41		vinyl chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
42		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**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]									
43		zinc { zinc sulphate }				75	mg/kg	2.469	150.567	mg/kg	0.0151 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.123 %		

Key

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

Classification of sample: TP03

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

Sample details

Sample Name:
TP03
Sample Depth:
0.30-0.60 m
Moisture content:
20%
(dry weight correction)

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: 20% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11 mg/kg	1.32	12.103 mg/kg	0.00121 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.3 mg/kg	13.43	14.549 mg/kg	0.00145 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		46 mg/kg	1.462	56.026 mg/kg	0.0056 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15	confirm TPH has NOT arisen from diesel or petrol					☑					
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32 mg/kg	1.126	30.024 mg/kg	0.003 %	✓	
17	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
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
21	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	24 mg/kg		20 mg/kg	0.002 %	✓	
24	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		390 mg/kg	2.749	893.283 mg/kg	0.0893 %	✓	
25	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
26	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<0.25 mg/kg	1.5	<0.375 mg/kg	<0.0000375 %		<LOD
27	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		37 mg/kg	1.579	48.701 mg/kg	0.00487 %	✓	
29	pH			PH		8.9 pH		8.9 pH	8.9 pH		
30	phenanthrene		201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
31	phenol	604-001-00-2	203-632-7	108-95-2		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
32	pyrene		204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.7 mg/kg	2.554	3.618 mg/kg	0.000362 %	✓	
34	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
36	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		68 mg/kg	1.785	101.16 mg/kg	0.0101 %	✓	
37	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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
38	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		79 mg/kg	2.469	162.562 mg/kg	0.0163 %	✓	
								Total:	0.136 %		

Key

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

Classification of sample: BH03

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

Sample details

Sample Name:
BH03
Sample Depth:
0.5 m
Moisture content:
8.7%
(dry weight correction)

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: 8.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
3	anthracene		204-371-1	120-12-7		0.18 mg/kg		0.166 mg/kg	0.0000166 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		19 mg/kg	1.32	23.078 mg/kg	0.00231 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.95 mg/kg		0.874 mg/kg	0.0000874 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.1 mg/kg		1.012 mg/kg	0.000101 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.4 mg/kg		1.288 mg/kg	0.000129 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		0.9 mg/kg		0.828 mg/kg	0.0000828 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.6 mg/kg		0.552 mg/kg	0.0000552 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		2.2 mg/kg	13.43	27.181 mg/kg	0.00272 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<**LOD**
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		29 mg/kg	1.462	38.993 mg/kg	0.0039 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		1.3 mg/kg		1.196 mg/kg	0.00012 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				35	mg/kg	1.126	36.252	mg/kg	0.00363 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				1	mg/kg	1.884	1.733	mg/kg	0.000173 %	✓	
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				2.2	mg/kg		2.024	mg/kg	0.000202 %	✓	
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				0.59	mg/kg		0.543	mg/kg	0.0000543 %	✓	
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	270	mg/kg		248.39	mg/kg	0.0248 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				280	mg/kg	2.749	708.002	mg/kg	0.0708 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				2.4	mg/kg	1.353	2.988	mg/kg	0.000299 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.3	mg/kg	1.5	0.414	mg/kg	0.0000414 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				17	mg/kg	1.579	24.702	mg/kg	0.00247 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				9.8	pH		9.8	pH	9.8 pH		
				PH									
30		phenanthrene				0.7	mg/kg		0.644	mg/kg	0.0000644 %	✓	
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				1.9	mg/kg		1.748	mg/kg	0.000175 %	✓	
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				190	mg/kg		174.793	mg/kg	0.0175 %	✓	
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				51	mg/kg	1.785	83.758	mg/kg	0.00838 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				300	mg/kg	2.469	681.499	mg/kg	0.0681 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.207 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

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: BH04

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

Sample details

Sample Name:
BH04
Sample Depth:
0.5 m
Moisture content:
14%
(dry weight correction)

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: 14% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14 mg/kg	1.32	16.215 mg/kg	0.00162 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.36 mg/kg		0.316 mg/kg	0.0000316 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.46 mg/kg		0.404 mg/kg	0.0000404 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.49 mg/kg		0.43 mg/kg	0.000043 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		0.36 mg/kg		0.316 mg/kg	0.0000316 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.36 mg/kg		0.316 mg/kg	0.0000316 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		0.4 mg/kg	13.43	4.712 mg/kg	0.000471 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		15 mg/kg	1.462	19.231 mg/kg	0.00192 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		0.62 mg/kg		0.544 mg/kg	0.0000544 %	✓	

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15	confirm TPH has NOT arisen from diesel or petrol					☑					
16	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		59 mg/kg	1.126	58.27 mg/kg	0.00583 %	✓	
17	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
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	fluoranthene		205-912-4	206-44-0		0.82 mg/kg		0.719 mg/kg	0.0000719 %	✓	
21	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
22	indeno[123-cd]pyrene		205-893-2	193-39-5		0.27 mg/kg		0.237 mg/kg	0.0000237 %	✓	
23	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	500 mg/kg		438.596 mg/kg	0.0439 %	✓	
24	manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		250 mg/kg	2.749	602.755 mg/kg	0.0603 %	✓	
25	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.3 mg/kg	1.353	1.543 mg/kg	0.000154 %	✓	
26	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.54 mg/kg	1.5	0.711 mg/kg	0.0000711 %	✓	
27	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
28	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		16 mg/kg	1.579	22.168 mg/kg	0.00222 %	✓	
29	pH			PH		9 pH		9 pH	9pH		
30	phenanthrene		201-581-5	85-01-8		0.22 mg/kg		0.193 mg/kg	0.0000193 %	✓	
31	phenol	604-001-00-2	203-632-7	108-95-2		<1.3 mg/kg		<1.3 mg/kg	<0.00013 %		<LOD
32	pyrene		204-927-3	129-00-0		0.74 mg/kg		0.649 mg/kg	0.0000649 %	✓	
33	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
34	toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
35	TPH (C6 to C40) petroleum group			TPH		17 mg/kg		14.912 mg/kg	0.00149 %	✓	
36	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		34 mg/kg	1.785	53.242 mg/kg	0.00532 %	✓	
37	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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
38	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		120 mg/kg	2.469	259.926 mg/kg	0.026 %	✓	
								Total:	0.15 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00149%)

Classification of sample: BH04[1]

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

Sample details

Sample Name:
BH04[1]
Sample Depth:
1 m
Moisture content:
17%
(dry weight correction)

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: 17% Dry Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2		acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3		anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
4		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15 mg/kg	1.32	16.927 mg/kg	0.00169 %	✓	
5		benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
7		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
8		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
9		benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
10		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
11		boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1 mg/kg	13.43	11.479 mg/kg	0.00115 %	✓	
12		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13		chromium { chromium(III) oxide }		215-160-9	1308-38-9		35 mg/kg	1.462	43.722 mg/kg	0.00437 %	✓	
14		chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				32	mg/kg	1.126	30.794	mg/kg	0.00308 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		dichloroethane { 1,1-dichloroethane and 1,2-dichloroethane (combined) }				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
20		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
21		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
22		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
23		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
24		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	320	mg/kg		273.504	mg/kg	0.0274 %	✓	
		082-001-00-6											
25		manganese { manganese sulphate }				310	mg/kg	2.749	728.252	mg/kg	0.0728 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
26		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
27		molybdenum { molybdenum(VI) oxide }				<0.25	mg/kg	1.5	<0.375	mg/kg	<0.0000375 %		<LOD
		042-001-00-9	215-204-7	1313-27-5									
28		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
29		nickel { nickel dihydroxide }				35	mg/kg	1.579	47.25	mg/kg	0.00472 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
30		pH				8.5	pH		8.5	pH	8.5 pH		
				PH									
31		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
32		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
33		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
34		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		034-002-00-8											
35		tetrachloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
36		tetrachloromethane (carbon tetrachloride)				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
37		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
38		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
39		trichloroethylene; trichloroethene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
40		vanadium { divanadium pentaoxide; vanadium pentoxide }				63	mg/kg	1.785	96.125	mg/kg	0.00961 %	✓	
		023-001-00-8	215-239-8	1314-62-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
41		vinyl chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
42		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**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]									
43		zinc { zinc sulphate }				86	mg/kg	2.469	181.504	mg/kg	0.0182 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.145 %		

Key

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

Classification of sample: BH03[1]

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

Sample details

Sample Name:
BH03[1]
Sample Depth:
2.5 m
Moisture content:
9.6%
(dry weight correction)

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: 9.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		0.24 mg/kg		0.219 mg/kg	0.0000219 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.8 mg/kg	1.32	9.396 mg/kg	0.00094 %	✓	
5	benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
6	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.96 mg/kg		0.876 mg/kg	0.0000876 %	✓	
7	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1 mg/kg		0.912 mg/kg	0.0000912 %	✓	
8	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1 mg/kg		0.912 mg/kg	0.0000912 %	✓	
9	benzo[ghi]perylene		205-883-8	191-24-2		0.6 mg/kg		0.547 mg/kg	0.0000547 %	✓	
10	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.59 mg/kg		0.538 mg/kg	0.0000538 %	✓	
11	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		0.9 mg/kg	13.43	11.028 mg/kg	0.0011 %	✓	
12	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
13	chromium { chromium(III) oxide }		215-160-9	1308-38-9		20 mg/kg	1.462	26.671 mg/kg	0.00267 %	✓	
14	chrysene	601-048-00-0	205-923-4	218-01-9		0.79 mg/kg		0.721 mg/kg	0.0000721 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		confirm TPH has NOT arisen from diesel or petrol				☑							
16		copper { dicopper oxide; copper (I) oxide }				17	mg/kg	1.126	17.464	mg/kg	0.00175 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
17		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
18		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
19		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		fluoranthene				1.9	mg/kg		1.734	mg/kg	0.000173 %	✓	
			205-912-4	206-44-0									
21		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
22		indeno[123-cd]pyrene				0.46	mg/kg		0.42	mg/kg	0.000042 %	✓	
			205-893-2	193-39-5									
23		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	110	mg/kg		100.365	mg/kg	0.01 %	✓	
		082-001-00-6											
24		manganese { manganese sulphate }				240	mg/kg	2.749	601.875	mg/kg	0.0602 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
25		mercury { mercury dichloride }				1.2	mg/kg	1.353	1.482	mg/kg	0.000148 %	✓	
		080-010-00-X	231-299-8	7487-94-7									
26		molybdenum { molybdenum(VI) oxide }				0.33	mg/kg	1.5	0.452	mg/kg	0.0000452 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
27		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
28		nickel { nickel dihydroxide }				14	mg/kg	1.579	20.176	mg/kg	0.00202 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
29		pH				10.6	pH		10.6	pH	10.6 pH		
				PH									
30		phenanthrene				1.1	mg/kg		1.004	mg/kg	0.0001 %	✓	
			201-581-5	85-01-8									
31		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
32		pyrene				1.7	mg/kg		1.551	mg/kg	0.000155 %	✓	
			204-927-3	129-00-0									
33		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1.8	mg/kg	2.554	4.194	mg/kg	0.000419 %	✓	
		034-002-00-8											
34		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
35		TPH (C6 to C40) petroleum group				930	mg/kg		848.54	mg/kg	0.0849 %	✓	
				TPH									
36		vanadium { divanadium pentaoxide; vanadium pentoxide }				31	mg/kg	1.785	50.493	mg/kg	0.00505 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
37		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
38		zinc { zinc sulphate }				270	mg/kg	2.469	608.312	mg/kg	0.0608 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.231 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0849%)

Classification of sample: BH03[2]

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

Sample details

Sample Name:
BH03[2]
Sample Depth:
4.7 m
Moisture content:
22%
(dry weight correction)

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: 22% Dry Weight Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
2		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
3		anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
4		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	11.905	mg/kg	0.00119 %	✓	
5		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
6		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
7		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
8		benzo[ghi]perylene		205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
9		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
10		boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.5	mg/kg	13.43	16.512	mg/kg	0.00165 %	✓	
11		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<**LOD**
12		chromium { chromium(III) oxide }		215-160-9	1308-38-9		44	mg/kg	1.462	52.712	mg/kg	0.00527 %	✓	
13		chrysene	601-048-00-0	205-923-4	218-01-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
14		confirm TPH has NOT arisen from diesel or petrol					☑							

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29	mg/kg	1.126	26.763	mg/kg	0.00268 %	✓	
16		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
17		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
18		fluoranthene		205-912-4	206-44-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
19		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
20		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
21		lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	14	mg/kg		11.475	mg/kg	0.00115 %	✓	
22		manganese { manganese sulphate }	025-003-00-4	232-089-9	7785-87-7		370	mg/kg	2.749	833.581	mg/kg	0.0834 %	✓	
23		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
24		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<0.25	mg/kg	1.5	<0.375	mg/kg	<0.0000375 %		<**LOD**
25		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
26		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		39	mg/kg	1.579	50.492	mg/kg	0.00505 %	✓	
27		pH			PH		8	pH		8	pH	8pH		
28		phenanthrene		201-581-5	85-01-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
29		phenol	604-001-00-2	203-632-7	108-95-2		<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<**LOD**
30		pyrene		204-927-3	129-00-0		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
32		TPH (C6 to C40) petroleum group			TPH		33	mg/kg		27.049	mg/kg	0.0027 %	✓	
33		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		77	mg/kg	1.785	112.672	mg/kg	0.0113 %	✓	
34		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		78	mg/kg	2.469	157.873	mg/kg	0.0158 %	✓	
											Total:	0.131 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0027%)

Classification of sample: BH01

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

Sample details

Sample Name:
BH01
Sample Depth:
0.5 m
Moisture content:
7.5%
(dry weight correction)

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: 7.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
2	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
3	anthracene		204-371-1	120-12-7		0.1 mg/kg		0.093 mg/kg	0.0000093 %	✓	
4	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	14.739 mg/kg	0.00147 %	✓	
5	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.37 mg/kg		0.344 mg/kg	0.0000344 %	✓	
6	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.43 mg/kg		0.4 mg/kg	0.00004 %	✓	
7	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.52 mg/kg		0.484 mg/kg	0.0000484 %	✓	
8	benzo[ghi]perylene		205-883-8	191-24-2		0.25 mg/kg		0.233 mg/kg	0.0000233 %	✓	
9	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.23 mg/kg		0.214 mg/kg	0.0000214 %	✓	
10	boron { boron tribromide/trichloride/trifluoride (combined) }			10294-33-4, 10294-34-5, 7637-07-2		1.5 mg/kg	13.43	18.74 mg/kg	0.00187 %	✓	
11	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
12	chromium { chromium(III) oxide }		215-160-9	1308-38-9		23 mg/kg	1.462	31.27 mg/kg	0.00313 %	✓	
13	chrysene	601-048-00-0	205-923-4	218-01-9		0.32 mg/kg		0.298 mg/kg	0.0000298 %	✓	
14	confirm TPH has NOT arisen from diesel or petrol					☑					

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
15		copper { dicopper oxide; copper (I) oxide }				47	mg/kg	1.126	49.225	mg/kg	0.00492 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
16		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
		006-007-00-5											
17		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
18		fluoranthene				0.68	mg/kg		0.633	mg/kg	0.0000633 %	✓	
			205-912-4	206-44-0									
19		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-695-5	86-73-7									
20		indeno[123-cd]pyrene				0.19	mg/kg		0.177	mg/kg	0.0000177 %	✓	
			205-893-2	193-39-5									
21		lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	150	mg/kg		139.535	mg/kg	0.014 %	✓	
		082-001-00-6											
22		manganese { manganese sulphate }				230	mg/kg	2.749	588.065	mg/kg	0.0588 %	✓	
		025-003-00-4	232-089-9	7785-87-7									
23		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
		080-010-00-X	231-299-8	7487-94-7									
24		molybdenum { molybdenum(VI) oxide }				0.91	mg/kg	1.5	1.27	mg/kg	0.000127 %	✓	
		042-001-00-9	215-204-7	1313-27-5									
25		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
26		nickel { nickel dihydroxide }				19	mg/kg	1.579	27.917	mg/kg	0.00279 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
27		pH				10.6	pH		10.6	pH	10.6 pH		
				PH									
28		phenanthrene				0.28	mg/kg		0.26	mg/kg	0.000026 %	✓	
			201-581-5	85-01-8									
29		phenol				<1.3	mg/kg		<1.3	mg/kg	<0.00013 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
30		pyrene				0.56	mg/kg		0.521	mg/kg	0.0000521 %	✓	
			204-927-3	129-00-0									
31		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
		034-002-00-8											
32		TPH (C6 to C40) petroleum group				870	mg/kg		809.302	mg/kg	0.0809 %	✓	
				TPH									
33		vanadium { divanadium pentaoxide; vanadium pentoxide }				27	mg/kg	1.785	44.837	mg/kg	0.00448 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
34		zinc { zinc sulphate }				62	mg/kg	2.469	142.415	mg/kg	0.0142 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
										Total:	0.188 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Hazard unlikely to be realised given TPH composition, concentration and site setting.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0809%)

Appendix A: Classifier defined and non CLP determinands

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

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

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

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

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

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

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

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

boron tribromide/trichloride/trifluoride (combined) (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Conversion factor: 13.43
Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride
Data source: N/A
Data source date: 06 Aug 2015
Hazard Statements: Skin Corr. 1B H314 , Skin Corr. 1A H314 , Acute Tox. 2 H300 , Acute Tox. 2 H330 , EUH014

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

Conversion factor: 1.462
Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

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

CLP index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s)/Risk Phrase(s):
14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

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

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

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

- **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

- **lead compounds with the exception of those specified elsewhere in this Annex**

CLP index number: 082-001-00-6
Description/Comments: Least-worst case: Lead REACH Consortium considers some lead compounds Carcinogenic category 2B
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

- **pH** (CAS Number: PH)

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

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

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

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

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

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

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

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Aquatic Chronic 3 H412 , Carc. 1B H350 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315 , Acute Tox. 4 H302 , Flam. Liq. 2 H225

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

chromium {chromium(III) oxide}

Worst case species based on risk phrases

copper {dicopper oxide; copper (I) oxide}

Most likely common 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 species

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

Worst case species based on risk phrases

manganese {manganese sulphate}

Worst case species based on risk phrases

mercury {mercury dichloride}

Worst case species based on risk phrases

molybdenum {molybdenum(VI) oxide}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

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

Worst case species based on risk phrases

vanadium {divanadium pentaoxide; vanadium pentoxide}

Only harmonised substance

zinc {zinc sulphate}

Worst case species based on risk phrases

dichloroethane {1,1-dichloroethane and 1,2-dichloroethane (combined)}

Worst case species based on risk phrases

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2018.190.3583.7349 (09 Jul 2018)
HazWasteOnline Database: 2018.190.3583.7349 (09 Jul 2018)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010