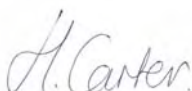
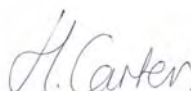




Phase II Environmental Assessment
Stadium Way Industrial Estate, Stadium
Way, Reading, RG30 6BX
The Wellcome Trust

December 2009

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	DRAFT	FINAL		
Date	04 December 2009	08 December 2009		
Prepared by	Helen Carter	Helen Carter		
Signature				
Checked by	Tim Clare	Tim Clare		
Signature	pp. 	pp. 		
Authorised by	Mark Wheeler	Mark Wheeler		
Signature				
Project number	12041674	12041674		
File reference	001	001		

WSP Environment & Energy
WSP House
70 Chancery Lane
London
WC2A 1AF

Tel: +44 (0)20 7314 5000
Fax: +44 (0)20 7314 5111
<http://www.wspgroup.com>



Contents

EXECUTIVE SUMMARY

1	Introduction	1
2	Site Characterisation	2
3	Ground Investigation	5
4	Ground Conditions	7
5	Generic Quantitative Risk Assessment	10
6	Revised Conceptual Site Model	12
7	Conclusions and Recommendations	13

Appendix A	Figures
Appendix B	Borehole Logs
Appendix C	Analytical Results
Appendix D	Comparison of Analytical Results with Screening Criteria
Appendix E	Limitations and Exceptions



Executive Summary

WSP Environment and Energy (WSPEE) were instructed to undertake a Phase II Environmental Assessment at Stadium Way Industrial Estate, Stadium Way, Reading, RG30 6BX (the Site). The works were instructed by King Sturge LLP and Cushman & Wakefield Investors on behalf of The Wellcome Trust (the Client). The principal purpose of undertaking the environmental intrusive investigation and assessment is to highlight environmental considerations, predominantly with respect to ground and groundwater conditions, which may potentially arise as liabilities associated with the ownership of the site. This was undertaken by identifying any potential site specific risks to sensitive receptors such as human health and controlled waters from any identified sources.

The desk study report details that the site was formerly a greyhound racing stadium prior to redevelopment into its current layout in circa 1976. Potential sources of contamination were identified as Made Ground, fuel/oil storage and electrical substations.

Overall, the site setting is considered to be of medium/high environmental sensitivity, due to the following reasons: the site is currently used as an industrial estate; it is underlain by Principal Aquifer comprising the Taplow Terrace Gravels and the White Chalk; it is not located within a source protection zone; although the closest potable water source is located 98m northwest of the site; and the closest surface water body is River Thames 170m north of the site.

The investigation works included: the completion of three boreholes to ten metres below ground level (bgl) and fifteen window samples to three metres below ground level to assess the deeper and shallower ground, ground gas and groundwater environments. Seven locations were installed with monitoring standpipes. Soil and groundwater samples were tested for a range of metal, inorganic and organic determinands appropriate to the current and historical site use.

The ground investigation identified Made Ground to maximum of 2.5m bgl overlying Alluvial Deposits/Taplow Terrace Gravels to 5.2m bgl over White Chalk. Groundwater was recorded in the natural stratum beneath the site with continuity between the Alluvium/Taplow Terrace Gravels/White Chalk.

Visual and olfactory evidence of contamination was noted during the investigation as charcoal and ash within the Made Ground; oil staining at ground level and a slight solvent odour at 1.25m bgl were observed at WS13 (between Units 16 and 19); and an oily sheen was noted at 2.0-2.2m bgl in WS15 (rear of Unit 22).

A Generic Quantitative Risk Assessment was undertaken on the analytical results. Although chromium and mercury concentrations are elevated in WS2 (adjacent to Unit 3), the area is covered by hardstanding and is utilised as car parking. Therefore this risk of human exposure to this contamination is limited unless they are entering the ground for maintenance or development works. Visual and olfactory observations were recorded during the investigation works at WS13 and WS15, however the contamination observed appears to be in localised areas and does not appear to be migrating downwards based on the laboratory analysis. In addition the contamination recorded is not elevated above relevant screening values. Groundwater analytical results did not record any elevated contaminant concentrations. The monitoring has recorded generally low levels of ground gases across the site; slightly elevated gases appear to be associated with Made Ground deposits and are localised to specific areas. Given the low concentrations and the lack of flow, in conjunction with an end use of hardstanding and warehouse style buildings, consequently WSPE do not consider that there is a significant risk from ground gases at the site.

Based on the visual observations made during the investigations and supported by the analytical data, there is no significant site wide contamination and no pollutant linkage identified.

Based on the information contained in this report and with due regard to the continuation of the current site use, it is the opinion of WSPEE that the site currently represents a **low** environmental risk.

Should the site be redeveloped a more comprehensive assessment of the ground conditions is recommended.

WSP ENVIRONMENT & ENERGY

The executive summary should be read in conjunction with the complete report (Ref. WSPEE Phase II Environmental Assessment Report 12051674/001, December 2009) and not relied upon as a separate document.



1 Introduction

1.1 AUTHORISATION

WSP Environment and Energy (WSPEE) were instructed to undertake a Phase II Environmental Assessment at Stadium Way Industrial Estate, Stadium Way, Reading, RG30 6BX (the Site). The works were instructed by King Sturge LLP and Cushman & Wakefield Investors on behalf of The Wellcome Trust (the Client). A site location plan is provided as **Figure 1**.

1.2 OBJECTIVES

The principal purpose of undertaking the environmental intrusive investigation and assessment is to highlight environmental considerations, predominantly with respect to ground and groundwater conditions, which may potentially arise as liabilities associated with the ownership of the site. This will be undertaken by identifying any potential site specific risks to the receptors such as human health and controlled waters from any identified sources.

1.3 SCOPE OF WORKS

WSPEE have undertaken the assessment in line with best practice as outlined in CLR 11 and the investigation is based on the protocols detailed in BS10175:2001, Investigation of Potentially Contaminated Sites. The investigation was designed to provide targeted assessment of potential sources and assessment of the general conditions. Investigations were not undertaken inside of buildings present across the site.

WSPEE have undertaken the following scope of works:

- Completion of three boreholes to 10m below ground level (bgl) to assess the deeper ground, ground gas and groundwater. All boreholes were installed with groundwater and ground gas monitoring standpipes within the natural stratum beneath the site.
- Completion of fifteen dynamic sampling boreholes to assess the shallow ground conditions to 3m below ground level (bgl). Four boreholes were installed with ground gas monitoring standpipes within the Made Ground deposits beneath the site.
- Soil and groundwater samples have been scheduled for appropriate contaminants of concern.
- The borehole locations and levels were surveyed to provide an indication of groundwater flow direction.
- Groundwater level and ground gas monitoring was undertaken on one occasion.
- Provision of a factual and interpretative Generic Quantitative Environmental Risk Assessment report. The report will provide analysis of the significance of potential environmental risks identified in the context of the site use via the source-pathway-receptor pollutant linkage approach.

1.4 LIMITATIONS AND EXCEPTIONS

No investigation works were undertaken inside of the buildings located at the site. Ground gas monitoring was undertaken on one occasion to provide a snap shot of the indicative ground gas environment. It should be noted that in accordance with the CIRIA C665 guidance a minimum of four number occasions during one month for the purposes of redevelopment.

The general limitations to the nature of the investigation are outlined in **Appendix E**.

2 Site Characterisation

The following section assumes that the reader is fully cognisant with the findings of the Geo-Environmental Desk Study undertaken by Shepherd Gilmour Environmental Ltd for Cushman and Wakefield Investors, Ref. Q0735 JB ME 1051, July 2008. This section provides an overview of the pertinent aspects associated with the areas under investigation.

2.1 SITE DETAILS

Site Address	Stadium Way Industrial Estate, Stadium Way, Reading, RG30 6BX
National Grid Reference	468780 174300
Size	5 hectares (approximately)
Description of Site	The site comprises an industrial estate with associated buildings and hardstanding, and is located approximately 2.75km west of Reading town centre. The site is bounded to the north by railway land. A site location and layout plans are provided as Figure 1 and 2 respectively.

2.2 KEY FINDINGS OF THE DESK STUDY REPORT

In addition the findings in the Shepherd Gilmour Environmental Limited Desk Study, WSPEE undertook a site visit on 18th November 2009 (photographs are provided as **Figure 3**).

Land Use	The site is occupied by 23no. units (Units 1 to 23) within the Stadium Industrial Estate and four units within 127A-127D Loverock Road comprising various garages, warehouses, retailers and distributors. Oil staining was noted at ground level in the pathway between units 16 and 19.
Above-ground Storage Tanks (ASTs) / Under-ground Storage Tanks (USTs)	No ASTs were observed external to the units at the site, their presence cannot be discounted within individual units. An AST and drums were observed on an adjacent site to east of the site.
Electrical Substations	Three electrical substations were observed at the site. The substation between unit 8 and 14 was observed to have oil staining at ground level.
Interceptors	Two interceptors were observed during the walkover.
Historical Setting	The desk study report details that the site was formerly a greyhound racing stadium prior to redevelopment into its current layout in circa 1976.

The desk study and walkover has identified the following potential sources of contamination:

- Waste oil and fuel storage
- Various light industrial units
- Electrical substations

The British Geology Survey Map 268 (Reading) and Environment Agency groundwater vulnerability map indicates that the site is underlain by the following geological/hydrogeological sequence:

Geology	Aquifer Status
Possible Made Ground	N/A
Alluvial Deposits / Taplow Terrace Gravels	Principal (Major)
White Chalk	Principal (Major)



The closest potable groundwater abstraction is recorded 98m northwest of the site; although the site is not located within a groundwater source protection zone.

The River Thames is located approximately 170m northwest of the site. In accordance with the Environment Agency website the site is located in an area that could be affected by flooding from the River Thames, as there are no flood defences. The Environment Agency have designated the risk of flooding as low and is in an area that is unlikely to flood except in extreme conditions. The chance of flooding each year is 0.5% (1 in 200) or less.

2.3 ENVIRONMENTAL SENSITIVITY

Overall, the site setting is considered to be of **medium/high** environmental sensitivity, due to the following reasons:

- The site is currently used as an industrial estate
- The site is underlain by a Principal Aquifer comprising the Taplow Terrace Gravels and the White Chalk.
- The site is not located within a source protection zone; although the closest potable water source is located 98m northwest of the site.
- The closest surface water body is the River Thames 170m north of the site.

2.4 PRELIMINARY CONCEPTUAL SITE MODEL

2.4.1 Introduction

The objectives of the hazard assessment process are to:

- Determine the sources of contamination (if present);
- Identify specific chemicals of potential concern (if present);
- Identify possible contaminant migration pathways;
- Identify possible receptors (e.g. soil, groundwater, humans and third parties) which could be affected, including their relative potential sensitivity to contaminants given their nature of exposure; and,
- Construct a conceptual model for the site which clarifies the mechanisms by which the site may present a risk, highlighting those sources of risk which will require further assessment and those which can be eliminated.

The conceptual model, which is revised and developed in light of investigation findings, provides a description of three elements i.e.

- The actual and probable nature, extent and location of contaminants, i.e. the SOURCE term;
- The potential existing and reasonably foreseeable future on-site and off-site RECEPTORS to contamination; and,
- The likely migration PATHWAYS by which contaminants may reach such receptors.

Such information enables the development of plausible POLLUTANT LINKAGES between sources of contamination and receptors, and thus an estimation of the risks that may be present.

The typical chemicals associated with these land uses have been identified within DEFRA R&D Publication CLR8 Potential Contaminants for the Assessment of Land and this information has been used to inform our conceptual site model.

2.4.2 Plausible Pollutant Linkage

The pollutant linkages listed the tables below are considered to be plausible and could therefore potentially represent a significant risk of harm to Human Health and/or the pollution of Controlled Waters.

Potential contaminant Sources	Associated contaminants	Potential migration pathways	Sensitive receptors
Made Ground	A range of metal, organic, inorganic and other determinands such as asbestos.	<i>On-Site Human Health:</i> -Inhalation of volatile gases. -Dermal contact with soil. -Ingestion of soil and dust.	<i>On-Site Human Health:</i> -Current Site Occupants. -Construction & Maintenance Staff. -Potable water supplies.
ASTs / Interceptors / Electrical Substations	Ground gas such as methane, carbon dioxide and volatile vapours.	<i>Controlled Waters:</i> -Leaching into groundwater. -Groundwater migration (on/off site).	<i>Controlled Waters:</i> -Groundwater (Principal Aquifer). -Surface water (River Thames).

3 Ground Investigation

3.1 FIELD WORK

The site investigation works were undertaken between the 18th and 23rd November 2009 and comprised the scope of works detailed in **Section 1.3**. Exploratory hole location plans and detailed logs showing the ground conditions encountered are presented in **Figure 4 and 5** and **Appendix B**, respectively. Ground gas monitoring and groundwater level monitoring and sampling was undertaken on the 24th November 2009.

The ground investigation was undertaken in general accordance with techniques outlined in BS5930: 1999 Code of Practice for Site Investigations. Appropriate personal protective equipment (PPE) was worn at all times by all personnel during the course of the ground investigation.

3.2 DETAILS OF TARGET

The exploratory holes were positioned across the units in order to target specific areas and provide general site coverage and the following table details the locations:

Target	Exploratory Hole Location	Media
General Site Coverage	BH1, BH2, BH3	Soil, Groundwater and Ground Gas
General Site Coverage	WS1 to WS7, WS11, WS14	Soil
Electrical Substations	WS8, WS10	Soil
Electrical Substation & Off-site ASTs	WS15	Soil and Ground Gas
Hydrocarbon Spillage	WS13	Soil and Ground Gas
Interceptor	WS9	Soil
	WS12	Soil and Ground Gas

3.3 SHELL AND AUGER BOREHOLES

Three shell and auger boreholes (BH1 to BH3) were advanced to a maximum depth of 10.00m bgl to assess the soil conditions beneath the site. Observations of the ground conditions encountered in the exploratory holes were recorded by an engineer.

Each of the boreholes were installed with monitoring standpipes for the purposes of assessing groundwater and ground gas in the natural stratum. The monitoring installation comprised 50mm plain pipe surrounded by bentonite above slotted plastic pipe with a pea gravel surround and fitted with air tight gas valves.

Descriptive logs of the shell and auger boreholes are shown on the records presented in **Appendix B**.

3.4 WINDOW SAMPLE BOREHOLES

Fifteen window sample boreholes (WS1 to WS15) were advanced to a maximum depth of 3.00m bgl to assess the soil conditions beneath the site. Observations of the ground conditions encountered in the exploratory holes were recorded by an engineer. Disturbed soil samples of the strata encountered were taken from the window sample boreholes for chemical laboratory analysis.

Four of the boreholes were installed with monitoring standpipes for the purposes of assessing ground gas in Made Ground. The monitoring installation comprised 50mm plain pipe surrounded by bentonite above slotted plastic pipe with a pea gravel surround and fitted with air tight gas valves. On completion of the remaining positions, the boreholes were backfilled with bentonite and reinstated with concrete.



Descriptive logs of the window sample boreholes with details of sample depths are shown on the records presented in **Appendix B**.

3.5 GROUNDWATER AND GROUND GAS MONITORING

Ground gas monitoring was undertaken utilising a portable gas meter (GA2000) and the concentrations of methane, carbon dioxide, oxygen and atmospheric pressure were recorded and volatile vapours were measured using a Photo-Ionisation Detector (PID). Upon completion of the gas monitoring groundwater levels were measured.

A groundwater sample was then taken from each monitoring well using dedicated 35mm diameter bailers. Approximately three well volumes were purged from each borehole prior and the boreholes allowed to recharge to sampling to ensure representative sampling of the aquifer.

3.6 CHEMICAL LABORATORY TESTING

Selected soil samples and groundwater samples were submitted for chemical analysis at Jones Environmental Laboratory. The results of the soil and groundwater contamination testing are presented in **Appendix C**. These include the following determinands:

- Metals / Semi Metals – arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc and selenium.
- Organics Compounds – Total Petroleum Hydrocarbons Criteria Working Group (TPH-CWG) suite, Total Petroleum Hydrocarbon (TPH), Volatile Organic Compounds (VOC) suite, Semi-Volatile Organic Compounds (SVOC) suite, Speciated Phenols, Poly-Chlorinated Biphenyl's (PCBs) and Benzene, Toluene, Ethyl-benzene and Xylene (BTEX).
- Other – asbestos*, pH, sulphate, soil organic matter* and hardness**.

*Soil samples only

**Groundwater samples only

4 Ground Conditions

4.1 GENERAL

The ground conditions observed during the investigation confirmed the anticipated sequence detailed in the desk study and published geological mapping, and comprise of Made Ground overlying Alluvial Deposits, Taplow Terrace Gravels and White Chalk.

4.2 SUMMARY OF GROUND CONDITIONS

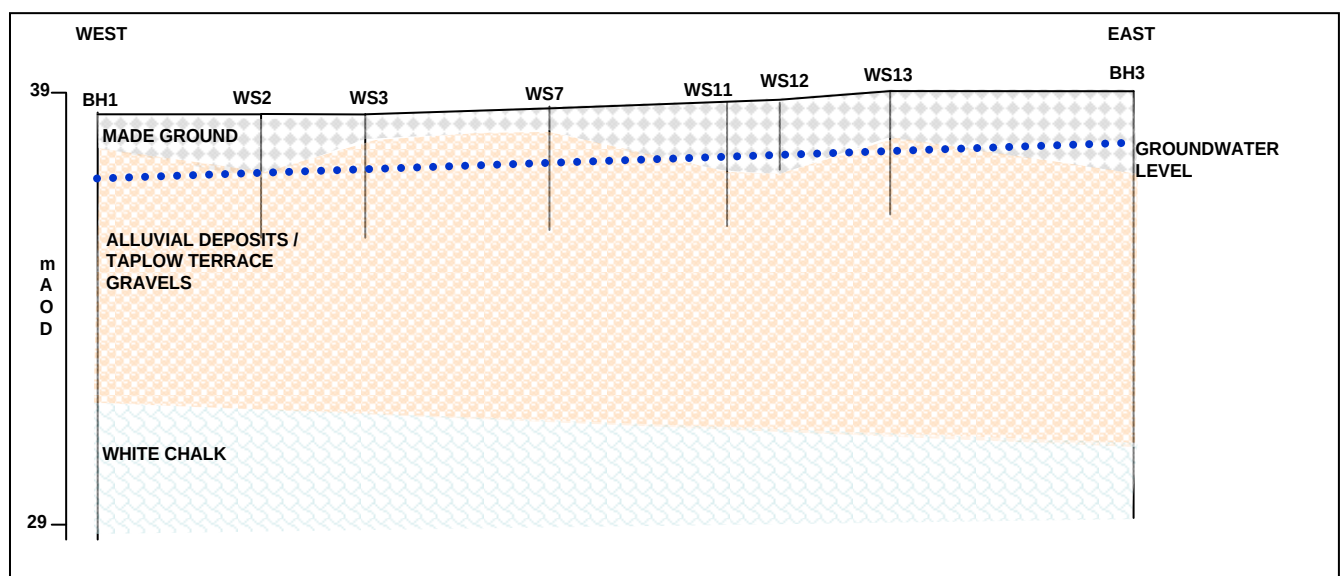
The following ground conditions have been identified during the site investigation; further details are provided on the boreholes logs presented in **Appendix B**:

Stratum Description	Typical Thickness (m)*	Depth to Top of Strata (m bgl)	Notes
Made Ground – generally comprising soft light brown/ brown slightly gravelly slightly sandy clay. Gravel of angular to sub-rounded flint, brick, charcoal and ash overlying; Grey black clayey sand and gravel with concrete, flint, brick, and ash with occasional pockets on metal, plastic and wood.	0.55 – 2.7	Ground Level	Identified at all locations (concrete or tarmac capping identified at WS2 to WS4, WS10, WS11 only)
Alluvial Deposits / Taplow Terrace Gravels – Orange brown sandy clay with occasional sub-angular to rounded flint gravel overlying; Orange brown initially clayey SAND and GRAVEL. Gravel of angular to rounded flint.	3.8 – 5.2	0.55 – 2.7	Identified at all locations except WS12 (refusal at 1.7m)
White Chalk: recovered as structureless chalk composed of white slightly gravelly silt with occasional gravel size flints.	>4	5.8 – 6.3	Identified in all three boreholes

m bgl – metres below ground level

*where proven

The cross section below provides an overview of the geological stratum beneath the site in a west-east direction.



4.3 GROUNDWATER

Groundwater was recorded in the natural stratum underlying the site; the following table provides the details:

Exploratory Hole Location	Ground Level (m AOD)	Groundwater Strike (rose to) during Drilling (m bgl)	Monitoring Well Screening (m bgl)	Monitoring Well Screening (Stratum)	Monitored Groundwater Level (m bgl)	Monitored Groundwater Level (m AOD)
BH1	38.71	3.5 (1.7)	2.0 – 8.5	NAT*	1.51	37.20
BH2	38.45	2.3 (1.9)	2.5 – 9.5	NAT*	1.28	37.17
BH3	38.39	3.1 (1.8)	3.0 – 10.0	NAT*	1.32	37.07
WS11	38.55	1.8	0.5 – 1.5	MG	1.5	37.05
WS12	38.77	N/O	0.7 – 1.7	MG	DRY	DRY
WS13	38.76	2.3	0.2 – 1.2	MG	DRY	DRY
WS15	38.99	2.0	0.5 – 2.5	MG	1.8	37.19

NAT* - comprises the Natural Stratum of the Alluvial Deposits /Taplow Terrace Gravels.

MG – Made Ground

N/O – Not Observed

Groundwater strikes were also observed at WS2 (2.7m bgl), WS3 (2.6m bgl), WS4 (2.0m bgl), WS5 (2.6m bgl), WS6 (1.8m bgl), WS7 (2.8m bgl), WS8 (2.8m bgl), WS9 (1.87m bgl), WS10 (2.4m bgl) within the natural stratum (Taplow Terrace Gravels). Groundwater was recorded in the natural stratum beneath the site with continuity between the Alluvial/Taplow Terrace Gravels/White Chalk.

The groundwater data suggests that the hydraulic gradient is in an easterly direction.

4.4 GROUND GAS

The following table provides an overview of the ground gas data:

Exploratory Hole Location	Monitoring Well Screening (Stratum)	Methane (% v.v)	Carbon Dioxide (%v.v)	Oxygen (%v.v)	Volatile Organic Compounds (ppm)	Flow (l / hr)	Atmospheric Pressure (Mbar)
BH1	NAT*	<0.1	0.2	21.2	<0.1	<0.1	1,000
BH2	NAT*	<0.1	<0.1	21.1	<0.1	<0.1	
BH3	NAT*	<0.1	0.3	20.5	<0.1	<0.1	
WS11	MG	<0.1	5.0	5.8	<0.1	<0.1	
WS12	MG	<0.1	0.1	20.9	<0.1	<0.1	
WS13	MG	<0.1	1.2	19.7	3.0	0.1	
WS15	MG	<0.1	2.7	17.1	1.0	<0.1	

NAT* - comprises the Natural Stratum of the Alluvial Deposits /Taplow Terrace Gravels.

MG – Made Ground



The monitoring has recorded generally low levels of ground gases across the site. Slightly elevated (above background) carbon dioxide was noted in WS11 (between units 16 and 11) and volatile vapours in WS13 (between units 16 and 19).

4.5 VISUAL AND OLFACTORY OBSERVATIONS

The following visual and olfactory evidence of contamination was recorded:

- Within the Made Ground – rare charcoal and ash.
- In WS12 (south of unit 17) there was a refusal on concrete at 1.7m bgl.
- In WS13 (between units 16 and 19) oil staining at ground level within the ornamental gravel and slight solvent odour at 1.25m bgl was observed.
- In WS15 (rear of unit 22) an oily sheen was noted at 2.0-.2m bgl.
- During sampling of groundwater no visual or olfactory contamination was observed.



5 Generic Quantitative Risk Assessment

5.1 GENERAL APPROACH – HUMAN HEALTH

Legislation and guidance on the assessment of contaminated sites acknowledges the need for a tiered risk based approach. This report represents a Generic Quantitative Risk Assessment (GQRA) being a comparison of site contaminant levels against generic standards and compliance criteria including an assessment of risk using the source-pathway-target model.

The term pollutant linkage has been described in the Preliminary Conceptual Site Model (**Section 2.4**) above as has Source, Pathway and Receptors. Each of these three elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. Without a pollutant linkage, there is not a risk – even if a contaminant is present. Even where there is a pollutant linkage and therefore some measure of risk, the question still needs to be asked as to whether the level of risk justifies remediation. In the context of land contamination, ‘risk’ is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

5.1.1 Compliance Criteria

Within the Environment Agency and DEFRA guidance, there are published Soil Guideline Values (SGVs) for seven metals, phenol, toluene and ethylbenzene. In order to provide a consistent methodology for the assessment of various contaminants a series of Generic Assessment Criteria (GAC) screening values have been calculated by WSPEE, in accordance with the CLEA methodology. These values have been calculated using CLEA V1.04, a computer modelling tool designed to assess human health related risks presented by contaminated soil.

The current use for the site is a commercial / light industrial land use, these SGV/GAC values have been utilised in the assessment.

5.1.2 Analysis of Data

As the site investigation has targeted particular features, statistical analysis of the results will not be undertaken and a direct comparison of the GAC/SGV to the analytical results will be undertaken.

5.2 ASSESSMENT OF THE ANALYTICAL RESULTS – HUMAN HEALTH

The following section has been sub-divided into metals, organics and asbestos within the soil samples, and provides an assessment of the results. Copies of the analytical results are provided in **Appendix C**, and assessment table is provided in **Appendix D** (the assessment table only provides contaminants with concentrations above laboratory limit of detection and are split between the top metre and depths greater than one metre). Fifteen samples were analysed from the top metre and ten from greater than one metre; these samples assessed the Made Ground and the Alluvial Deposits above groundwater level.

5.2.1 Metals in Soils

None of the soil samples have recorded metal determinands concentrations in excess of the relevant screening criteria; with the exception of slight elevation of chromium (154.mg/kg) and mercury (98.9mg/kg) in WS2 at 0.5m bgl.

5.2.2 Organics in Soils

None of the soil samples have recorded organic determinands (TPH, SVOC, VOC, BTEX or PCB) concentrations in excess of the relevant screening criteria.

In samples obtained from WS13 (1.25m bgl) solvent odours and WS15 (2-2.2m bgl) an oil sheen were observed respectively during the sampling; the analytical results have identified TPH, PAH and chlorinated solvents in WS13 and PAH in WS15 at concentrations above laboratory limit of detection; although not at elevated concentrations for the current land use. Samples taken beneath these locations have confirmed the visual findings of no elevated contaminants above laboratory limit of detection or screening levels.

5.2.3 Asbestos in Soils

Asbestos was not recorded in any of the Made Ground samples analysed.



5.2.4 Overview

Although chromium and mercury concentrations are elevated in WS2, this area is covered by hardstanding and is utilised as car parking. Therefore the risk of human exposure to this contamination is limited unless they are entering the ground for maintenance or development works.

Visual and olfactory observations were recorded during the investigation works at WS13 and WS15; however the contamination observed appears to be in localised areas and does not appear to be migrating downwards based on the laboratory analysis. In addition the contamination recorded is not elevated above relevant screening values.

5.3 GENERAL APPROACH – CONTROLLED WATERS

The main Controlled Water receptors beneath and within the vicinity of the site have been identified in the site characterisation (**Section 2**), and amended by the physical investigation findings and are detailed as groundwater within the Principal Aquifer. Three groundwater samples have been analysed (BH1, BH2 and BH3).

5.3.1 Compliance Criteria

Based on the receptors the following screening criteria have been used:

- UK Drinking Water Quality Standards 2000 (Amended 2004).
- Environmental Quality Standards (EQS), List 1 & 2 Dangerous Substances (76/464/EEC).
- World Health Organisation (WHO) Petroleum Products in Drinking Water.
- UK Private Drinking Water Guidelines.

5.4 ASSESSMENT OF THE ANALYTICAL RESULTS – CONTROLLED WATERS

The following section has been sub-divided into metals and organics within the groundwater samples and provides an assessment of the results. Copies of the analytical results are provided in **Appendix C**, and assessment table is provided in **Appendix D**.

5.4.1 Metals in Groundwater

All metal determinands are less than the relevant screening criteria for each of the samples analysed.

5.4.2 Organics in Groundwater

All organic determinands (TPH, SVOC, VOC and BTEX) have recorded concentrations in less than of the relevant screening values or the laboratory limit of detection.

5.5 ASSESSMENT OF THE ANALYTICAL RESULTS – GROUND GAS

The monitoring has recorded generally low levels of ground gases across the site. Slightly elevated (above background) carbon dioxide was noted in WS11 (between units 16 and 11) and volatile vapours in WS13 (between units 16 and 19). The gases appear to be associated with Made Ground deposits and are localised to specific areas. The low concentrations and the lack of flow, in conjunction with an end use of hardstanding and warehouse style buildings, consequently WSPEE do not consider that there is a significant risk from ground gases at the site.



6 Revised Conceptual Site Model

The following section provides a revised conceptual model for the site as a result of the Generic Assessment of the analytical results and their risk to Human Health and Controlled Water receptors.

The ground investigation has not identified any significant contamination therefore the following pathways have been discounted:

- **Soils:** None of the soil samples analysed have recorded contaminant concentrations considered to represent a risk to human health receptors beneath the site for the current land use.
- **Groundwater:** None of the groundwater samples recorded elevated contaminant concentrations.
- **Ground Gas:** The ground gas and volatile vapour concentrations recorded are not considered to present a risk to current site users.

Potential sources remain for the continued use of the site as commercial/light industrial units for example by the presence of ASTs/Drums within units which could potentially act as a discrete source of contamination if they are mis-managed.

As there has been not identified source-pathway-receptor linkage at the site; further assessment of the site is not considered necessary for continued use.



7 Conclusions and Recommendations

7.1 CONCLUSIONS

Based on the visual observations made during the investigations and supported by the analytical data, there is no significant site wide contamination and no pollutant linkage identified.

7.2 LIABILITIES

Based on the information contained in this report and with due regard to the continuation of the current site use, it is the opinion of WSPEE that the site currently represents a **low** environmental risk.

7.3 RECOMMENDATIONS

Should the site be redeveloped a more comprehensive assessment of the ground conditions is recommended.

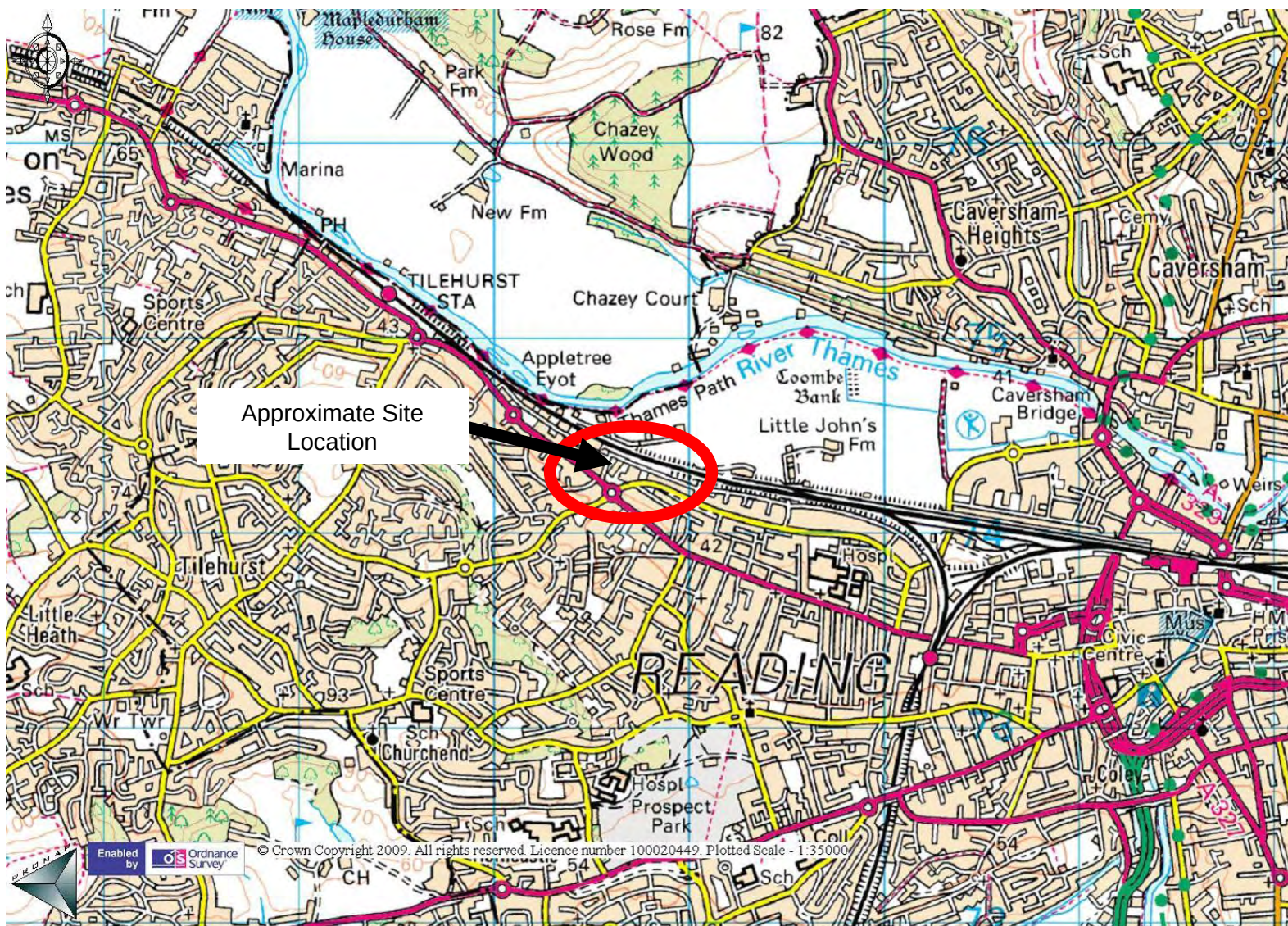
WSPEE recommend that the land owner should ensure that all tenants maintain a good level of environmental compliance when storing and handling potential contaminative substances such as fuel or oils.

WSP ENVIRONMENT AND ENERGY



Appendix A Figures

Figure 1	Site Location Plan
Figure 2	Site Layout Plan
Figure 3	Photographs
Figure 4	Exploratory Hole Location Plan
Figure 5	Exploratory Hole Location and Level Survey



DO NOT SCALE
NOTES:

© CROWN COPYRIGHT 2002. ALL RIGHTS RESERVED. LICENSE NUMBER 100020449.



WSP Environment & Energy Ltd
WSP House, 70 Chancery Lane, London, WC2A 1AF
Tel: +44 (0) 20 314 5000 Fax: +44 (0) 20 314 5111
<http://www.wspgroup.com>

CLIENT: The Wellcome Trust

PROJECT: Stadium Way, Reading

TITLE: Site Location Plan

SCALE@SIZE: NTS	ISSUE: FINAL
DESIGN/DRAWN: HC	DATE: December 2009
PROJECT No: 12041674/001	DRAWING No: FIGURE 01

© WSP Group plc



DO NOT SCALE
NOTES:

— Site Boundary

© CROWN COPYRIGHT 2002. ALL
RIGHTS RESERVED. LICENSE NUMBER
100020449.



WSP Environment & Energy Ltd
WSP House, 70 Chancery Lane, London, WC2A 1AF
Tel: +44 (0) 20 314 5000 Fax: +44 (0) 20 314 5111
<http://www.wspgroup.com>

CLIENT:
The Wellcome Trust

PROJECT:
Stadium Way, Reading

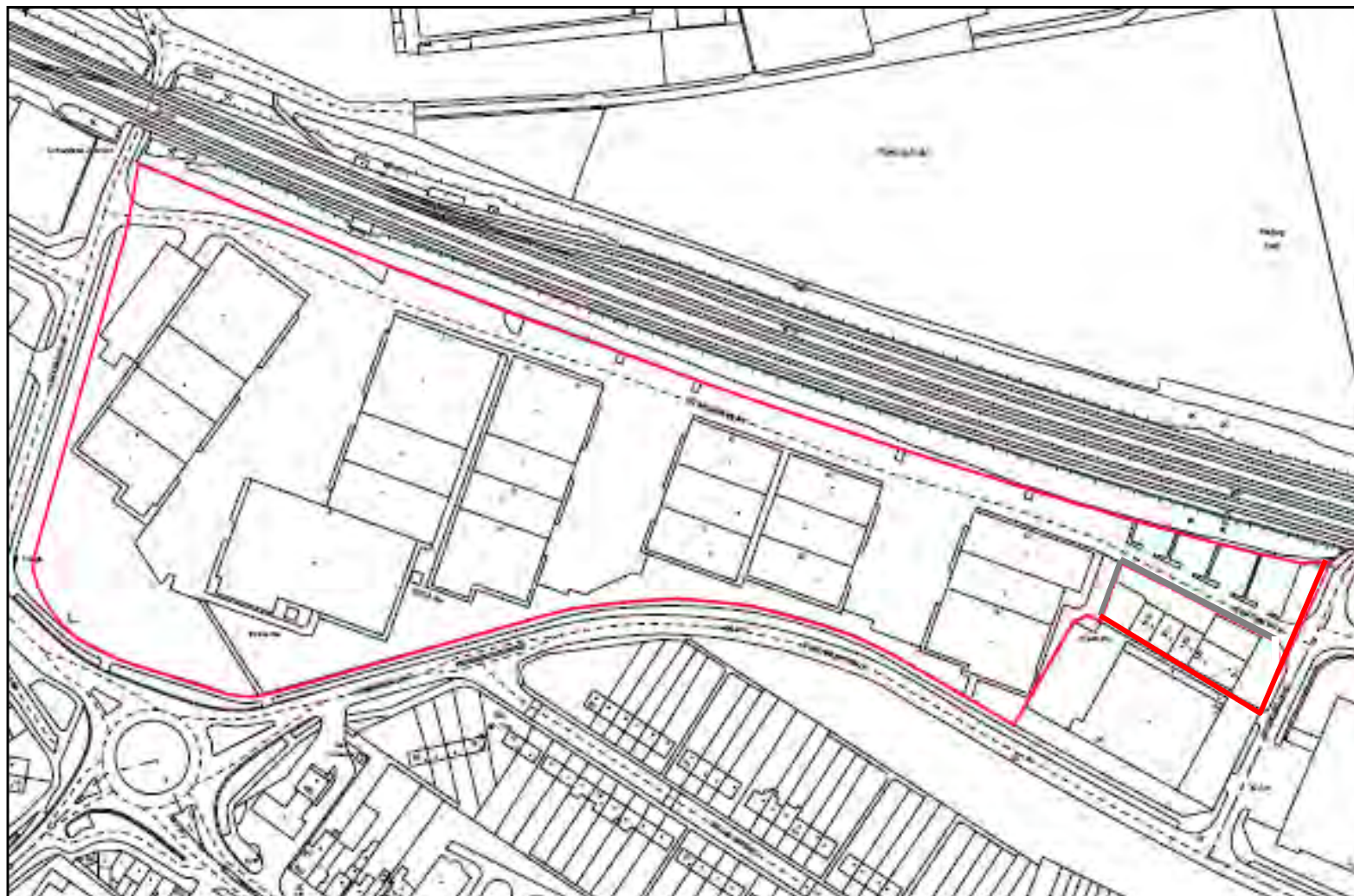
TITLE:
Site Layout Plan

SCALE@SIZE:	ISSUE:
NTS	FINAL

DESIGN/DRAWN:	DATE:
HC	December 2009

PROJECT No:	DRAWING No:
12041674/001	FIGURE 02

© WSP Group plc





Re-pointed and patched
brickwork on the exterior wall of
unit 9



Interceptor and pump warning
system..



Substation oil filling point note
staining on the apparatus and to the
brick wall.



Interceptor chamber



Cracking to brick retaining wall

DO NOT SCALE
NOTES:

© CROWN COPYRIGHT 2002. ALL
RIGHTS RESERVED. LICENSE NUMBER
100020449.



WSP Environmental & Energy
WSP House, 70 Chancery Lane, London, WC2A 1AF
Tel: +44 (0) 20 314 5000 Fax: +44 (0) 20 314 5111
[http:// www.wspgroup.com](http://www.wspgroup.com)

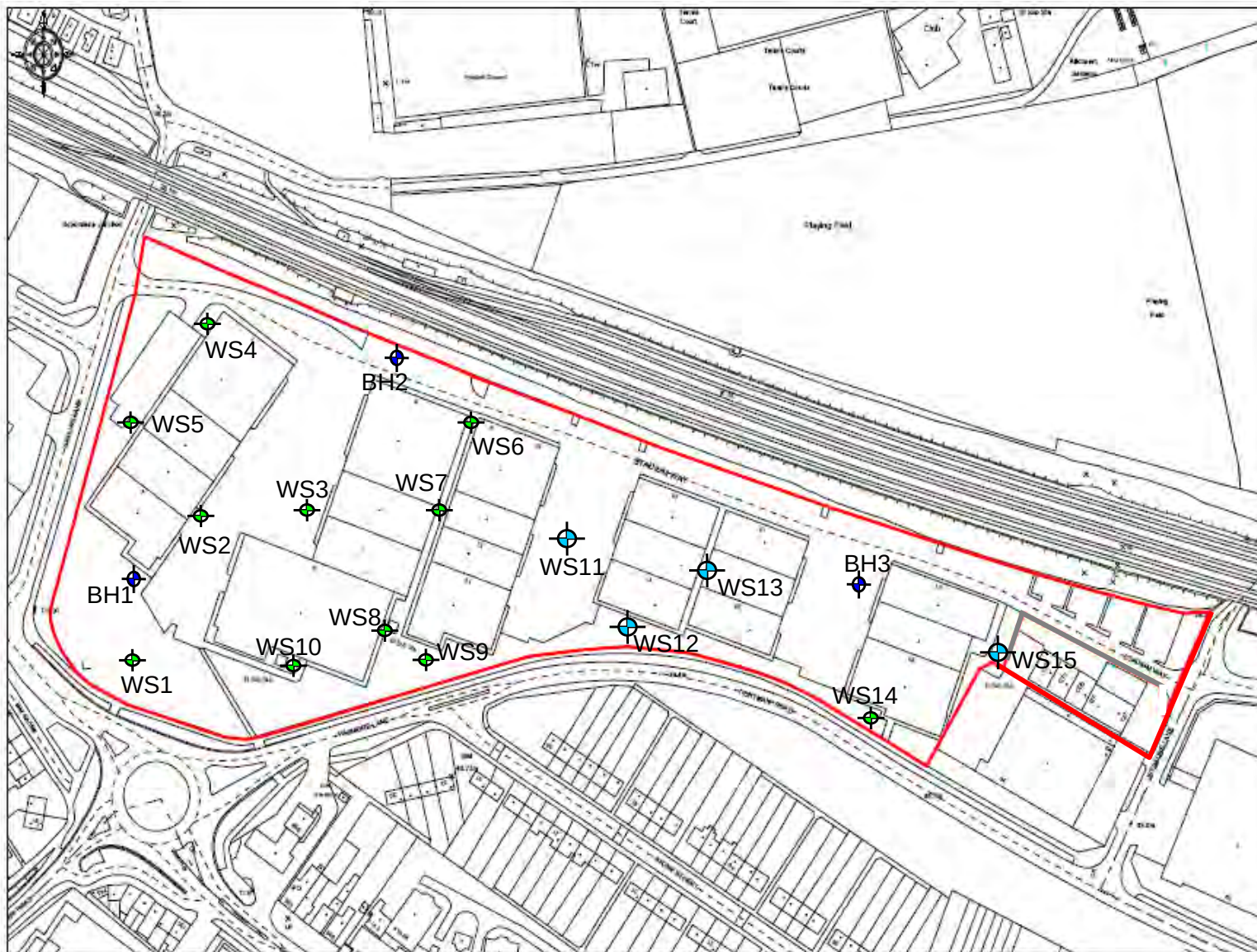
CLIENT:
The Wellcome Trust

PROJECT:
Stadium Way, Reading

TITLE:
Photographs

SCALE@SIZE: NTS	ISSUE: FINAL
DESIGN/DRAWN: JD	DATE: December 2009
PROJECT No: 12041674/001	DRAWING No: FIGURE 03

© WSP Group plc



DO NOT SCALE

NOTES:

-  Window sampling
-  Window sampling with monitoring installation
-  Cable Percussion Borehole with monitoring installation

© CROWN COPYRIGHT 2002. ALL RIGHTS RESERVED. LICENSE NUMBER 100020449.



WSP Environment & Energy Ltd
WSP House, 70 Chancery Lane, London, WC2A 1AF
Tel: +44 (0) 20 314 5000 Fax: +44 (0) 20 314 5005
<http://www.wspgroup.com>

CLIENT:

The Wellcome Trust

PROJECT:

Stadium Way, Reading

TITLE:

Exploratory Hole Location Plan

SCALE@SIZE:

NTS

ISSUE:

FINAL

DESIGN/DRAWN:

HC

DATE:

December 2009

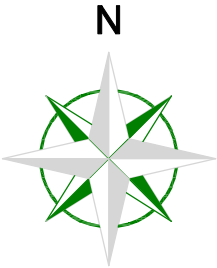
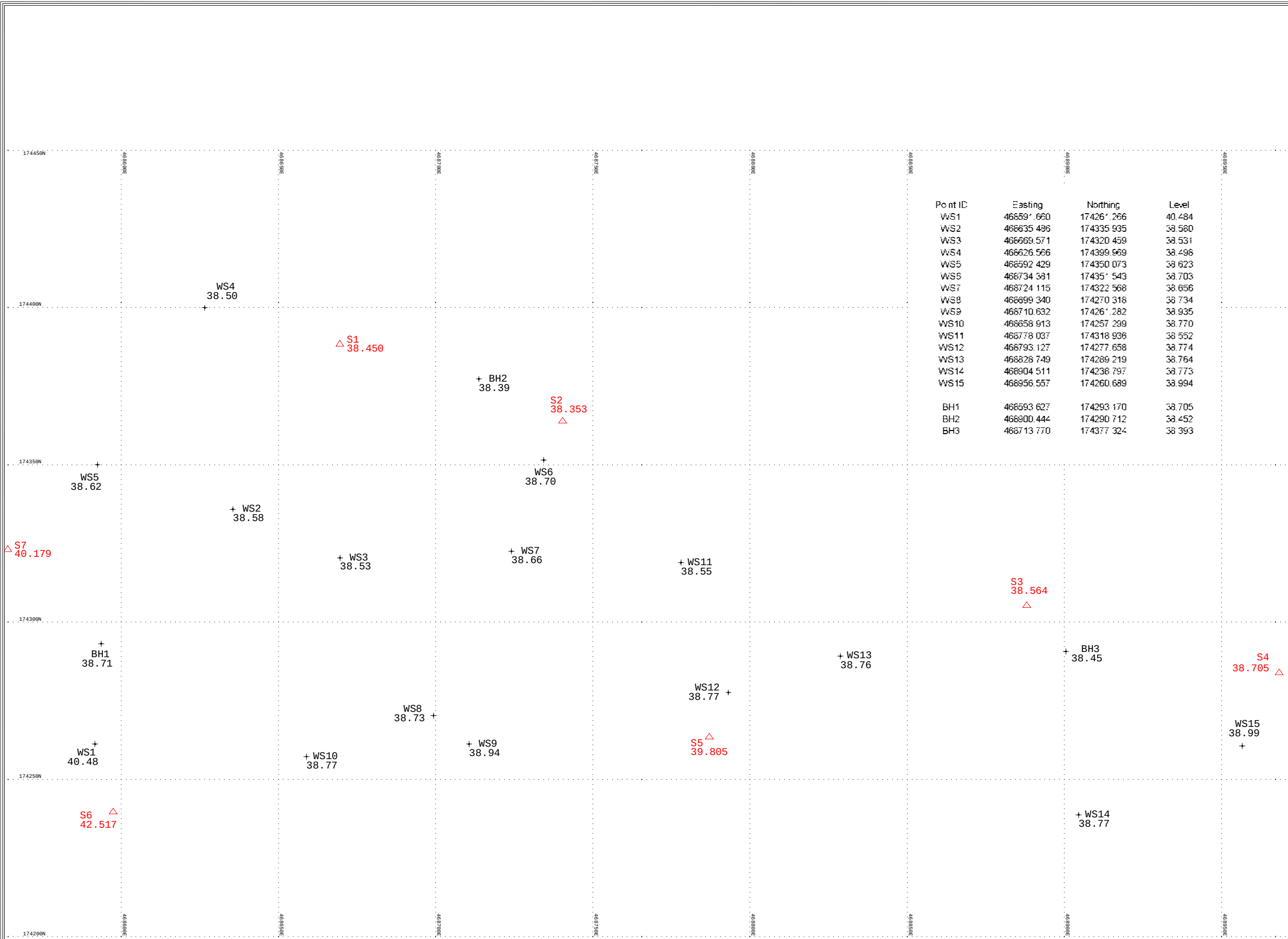
PROJECT No:

12041674/001

DRAWING No:

FIGURE 04

© WSP Group plc



Point ID	Easting	Northing	Level
WS1	466591.650	174261.266	40.484
WS2	466635.496	174335.935	38.580
WS3	466669.571	174320.459	38.531
WS4	466626.566	174399.969	38.496
WS5	466592.429	174350.073	38.623
WS6	466734.381	174351.543	38.703
WS7	466724.115	174322.568	38.656
WS8	466699.340	174270.318	38.734
WS9	466710.632	174261.282	38.935
WS10	466658.913	174257.299	38.770
WS11	466778.037	174318.936	38.552
WS12	466793.127	174277.658	38.774
WS13	466828.749	174289.219	38.764
WS14	466904.511	174236.797	38.773
WS15	466956.557	174260.689	38.994
BH1	466593.627	174293.170	38.705
BH2	466900.444	174290.712	38.452
BH3	466713.770	174377.324	38.393

Note:

OS Buildings

This survey has been orientated to the Ordnance Survey (O.S.) National Grid (OSGB36) via a Global Position System (GPS) and the O.S. Active Network (OS Net).

Rev	Date	Description	Drawn	Q. Ref.
-----	------	-------------	-------	---------

Topographical Surveys
Site Engineering

Measured Building Surveys
3D Laser Scanning

Rowan House
Duffield Road
Little Eaton
Derby

DE21 5DR
Tel (01332) 830044 Fax (01332) 830055
admin@greenhatch-group.co.uk

CLIENT
WSP Environment & Energy Ltd

PROJECT
Stadium Way Reading

TITLE
Borehole Location Survey

SCALE	DATE	DRAWN	QUALITY REF
1: 1250	18.11.09	SO	E0281

Level datum	GPS OSGB(36)
Grid orientation	GPS OSGB(36)
Job number	13873

Drawing No.	Rev.
13873_OGL	0

Comments
This plan should only be used for its original purpose. GreenHatch Ltd accepts no responsibility for this plan if supplied to any party other than the original client.
All dimensions should be checked on site prior to design and construction.
Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

DO NOT SCALE

Copyright Greenhatch Group, 01/01/09



Appendix B Borehole Logs

GROUND ENGINEERING

Newark Road
Peterborough PE1 5UA
Tel: 01733 566566 Fax: 01733 315280

GROUND INVESTIGATION REPORT

STADIUM INDUSTRIAL ESTATE

STADIUM WAY

READING

(Factual)

Report Reference No. C11985

On behalf of:-

**WSP Environment & Energy
70 Chancery Lane
London
WC2A 1AF**

December 2009

WSP ENVIRONMENT & ENERGY

FACTUAL REPORT ON A GROUND INVESTIGATION

AT

STADIUM INDUSTRIAL ESTATE

STADIUM WAY

READING

Report Reference No. C11985

December 2009

INTRODUCTION

WSP Environment & Energy, the client, have been commissioned to undertake a contamination assessment of the Stadium Industrial Estate, Stadium Way, Reading.

Ground Engineering Limited was instructed by the client to carry out a ground investigation comprising shallow and deep boreholes, with gas and groundwater monitoring installations, together with the recovery of samples for chemical laboratory testing. This report details the factual information obtained by this intrusive investigation.

LOCATION, TOPOGRAPHY AND GEOLOGY OF THE SITE

The Stadium Industrial Estate is located within the Tilehurst district of Reading, approximately 3km west-north-west of the town centre, between the A329, Oxford Road and the west to east aligned railway line to Oxford. The Estate is bounded to the north by a railway embankment; to the south by Portman Road and Oxford Road; to the west by Scours Lane; and to the east by Wigmore Lane. Stadium Way extends along the northern side of the Estate from its junction with Wigmore Lane at the eastern end of the site. The Estate is approximately centred at National Grid Reference SU 687 743.

The 465m long (west to east) site narrows from a width of about 180m, at its western end, to 72m at its narrowest point.

At the time of the investigation the Industrial Estate comprised a number of brick and steel clad portal frame units, which were arranged in short rows separated by access roads, areas of hardstanding and vehicle parking that extended south from Stadium Way. The southern and northern edges of the Estate were grass covered and contained occasional trees.

The Estate stands at about 40mOD on ground that slopes down gently towards the north and the course of the River Thames, which flows eastwards some 250m north of the site.

The geological map for the area at 1:50,000 scale, Sheet 268, shows the site to be covered partly by Alluvium (east) and partly by Taplow Terrace Gravel (west), associated with the nearby River Thames, and underlain by the solid geology of the Upper Chalk.

SITE WORK

Three cable percussive boreholes and fifteen window sample boreholes were undertaken on this site at the positions requested by the Engineer, which had previously been cleared for buried services by a specialist, and amended to suit on site conditions. The positions are denoted on the site plan at the rear of this report. The site work was supervised and co-ordinated by a geo-environmental engineer.

Cable Percussive Boreholes

Three 10.00m deep boreholes, BHs 1 to 3, were undertaken by a standard cable percussive boring rig on 19th and 20th November 2009. Each working area was bounded by temporary fencing for the safety of the general public and other site users. Prior to boring, following a CAT scan, starter pits were dug to 1.20m depth using hand tools, and a small hydraulic breaker where necessary to penetrate the surface layers, in order to ensure the absence of buried services. The boreholes were then advanced using weighted shell and claycutter tools, working within 150mm diameter casing.

Representative small and bulk disturbed samples of soil were taken from the boring tools at regular intervals throughout the depth of the boreholes. Samples of water were recovered from the boreholes once sufficient water had accumulated for collection.

On completion of the BHs 1, 2 and 3, 50mm diameter gas monitoring standpipes were installed to 8.50m, 9.50m and 10.00m depth, respectively. Below these depths the remainder of the holes were backfilled with gravel. The annulus around each standpipe was backfilled with pea gravel with a bentonite seal placed around the top of each installation within 2.00m to 3.00m of ground level, as instructed. A protective steel stopcock cover was concreted into the ground flush with the surface over these installations.

Excess spoil from the boreholes was removed from site and subsequently disposed of at a licensed facility.

The borehole records give the descriptions and depths of the various strata encountered, details of all samples taken, the installations and the groundwater conditions observed during boring and on completion.

Window Sample Boreholes

A total of fifteen boreholes (WS 1 to WS 15) were undertaken by a track-mounted dynamic continuous sampler rig on three days between 19th and 23rd November 2009. At each position following a CAT scan a starter pit was, where necessary, broken through the surface layer using a small hydraulic breaker, and a starter pit hand dug to 1.20m depth in order to ensure the absence of buried services. Small disturbed samples of soil were recovered at regular intervals within these starter pits by the geo-environmental engineer.

The window sampling equipment consisted of 1.00m long drive-in samplers of specially constructed and strengthened steel sample tubes with a plastic core-liner. The samplers were driven into the ground from the base of the starter pits by an automatic trip hammer weighing 63.50kg falling freely through 750mm. Upon extraction a continuous profile of the soil was obtained in the plastic liners inserted in the samplers.

The boreholes were generally completed at 3.00m below ground level, as instructed. The exceptions were WS 9, which encountered a possible pipe at 2.50m depth, and WS 12. The latter was abandoned within concrete 'rubble' at 1.70m depth.

The plastic liners recovered from the window sample boreholes were logged and sub-sampled on-site by the geo-environmental engineer. The samples were inspected and assessments of the soil characteristics have been taken into account during preparation of the exploratory hole records. The soil sample descriptions are in accordance with BS5930:1999.

Each sample from these boreholes was placed within appropriate containers, as agreed with the Client, of 100ml and 250ml amber glass jars. These are recorded on the hole records as environmental samples (ES).

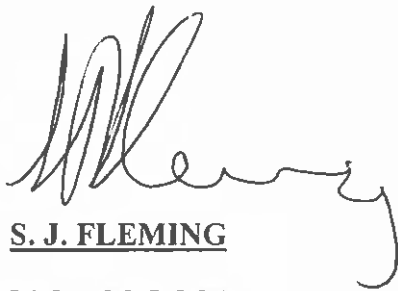
Following completion, eleven of these window sample boreholes were backfilled with arisings before the surface layers were reinstated. The four other window sample boreholes (WS 11, WS 12, WS 13 and WS 15) had gas monitoring standpipes installed within them to depths between 1.20m and 2.50m, as instructed. These pipes were slotted and surrounded with pea gravel to within about 0.50m of the surface, above which the annulus was sealed with bentonite and a steel stopcock cover concreted into the ground flush with the surface. Gas taps were inserted in the top of each pipe.

The window sample borehole records give the descriptions and depths of the various strata encountered, details of all samples taken, a pictorial representation of the installations, and the groundwater conditions observed during boring and on completion.

LABORATORY TESTING

Laboratory chemical testing was undertaken at a specialist laboratory selected by the client. The samples were stored on-site pending daily collection by courier.

GROUND ENGINEERING LIMITED

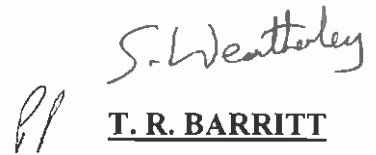


S. J. FLEMING

M.Sc., M.C.S.M.,

C.Geol., F.G.S.,

Director



T. R. BARRITT

B.Sc.(Hons.), C.Geol.

EurGeol., F.G.S.,

Senior Geotechnical Engineer

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING						BOREHOLE BH1					
			Date: 19/11/09		Hole Size: 150mm dia to 10.00m				Ground Level:					
Samples and in-situ Tests			(Date)	Inst.	Description of Strata	Legend	Depth m	O.D. Level m						
Depth m	Type	Blows							Casing					
0.10 0.15-0.25 0.30 0.35-0.55 0.55 0.60-0.80 0.80 0.90-1.20	D1 B1 D2 B2 D3 B3 D4 B4				MADE GROUND - Soft brown slightly gravelly, slightly sandy CLAY. Gravel fraction of angular to sub-rounded flint, brick and ash.		0.80							
1.80	D5				Soft light brown, slightly gravelly, slightly sandy CLAY, becoming very sandy below 2.90m depth. Gravel fraction of sub-angular to sub-rounded flint.									
2.80 2.90 3.00-3.40	D6 D7 B5				Orange-brown, initially clayey, SAND and GRAVEL. Gravel fraction of angular to rounded flint.		2.90							
3.50 3.50 3.60-4.00	D8 W1 B6													
4.50	D9						6.00							
5.50	D10													
6.00	D11				Structureless CHALK composed of white slightly gravelly SILT with occasional gravel size flints.		6.00							
7.00	D12													
8.00	D13						10.00							
9.00	D14													
10.00	D15						10.00							
REMARKS Borehole completed at 10.00m depth 1. Excavating a pit from 0.00m to 1.20m for 1 hour 2. Borehole cased to 10.00m depth 3. Standpipe installed to 8.50m depth								Project No 11985						
								Scale 1:50	Page 1/1					
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample S/C - SPT Spoon/Cone Water Strike Water Rise			N - SPT Blows for 0.3m - Blows for quoted penetration V - Vane Shear Test Cohesion () kPa Level on completion Level casing withdrawn Standpipe Level			Groundwater Strikes			Groundwater Observations					
						Depth m			Date			Depth m		
						No	Struck	Rose to	Rate	Cased	Sealed	Hole	Casing	Water
			1	3.50	1.70	medium	3.50	not	19/11/09 19/11/09	10.00 10.00	10.00 0.00	4.00 4.00		

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				BOREHOLE BH2		
Samples and in-situ Tests			Date: 19/11/09 to 20/11/09		Hole Size: 150mm dia to 10.00m		Ground Level:		
Depth m	Type	Blows	(Date) Casing	Inst.	Description of Strata	Legend	Depth m	O.D. Level m	
0.15 0.35 0.40-0.90	D1 D2 B1				MADE GROUND - ASPHALT. MADE GROUND - Lean mix CONCRETE.		0.10 0.35		
1.70 1.80-2.20	D3 B2		1		MADE GROUND - Dark grey and black clayey, SAND AND GRAVEL. Gravel fraction of flint, brick, ash and concrete.		1.70		
2.30-2.80 2.30	B3 W1		1		Soft orange-brown, slightly gravelly, sandy CLAY. Gravel fraction of sub-angular to sub-rounded flint.		2.30		
3.30	D4				Orange-brown, initially clayey, SAND AND GRAVEL. Gravel fraction of angular to rounded flint.				
4.30	D5								
5.30	D6								
5.80	D7						5.80		
6.80	D8				Structureless CHALK composed of white slightly gravelly SILT with occasional gravel size flints.				
7.80	D9								
8.80	D10								
9.80	D11						10.00		

REMARKS		Borehole completed at 10.00m depth		Project No 11985	
1. Excavating a pit from 0.00m to 1.20m for 1.50 hours					
2. Borehole cased to 10.00m depth					
3. Standpipe installed to 9.50m depth					
		Scale 1:50		Page 1/1	

KEY		Groundwater Strikes						Groundwater Observations			
N - SPT Blows for 0.3m		Depth m						Depth m			
D - Disturbed Sample	- Blows for quoted penetration	No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
B - Bulk Sample	- Vane Shear Test Cohesion () kPa	1	2.30	1.90	slow	2.00	not	19/11/09	9.00	9.00	2.60
U - Undisturbed Sample	- Level on completion							20/11/09	9.00	9.00	3.60
W - Water Sample	- Level casing withdrawn							20/11/09	10.00	10.00	4.00
S/C - SPT Spoon/Cone	- Standpipe Level							20/11/09	10.00	0.00	4.00

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING						BOREHOLE BH3				
			Date: 20/11/09		Hole Size: 150mm dia to 10.00m				Ground Level:				
Samples and in-situ Tests			(Date) Casing	Inst.	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Blows											
0.10	D1				MADE GROUND - ASPHALT. MADE GROUND - Lean mix CONCRETE.		0.05						
0.40 0.50 0.60-1.00	D2 D3 B1				MADE GROUND - Grey and black, clayey SAND and GRAVEL. Gravel fraction of concrete, flint, brick and ash.		0.50						
1.90-2.30 1.90	B2 D4				Soft, brown, slightly gravelly, sandy CLAY. Gravel fraction of sub-angular to sub-rounded flint.		1.90						
2.90 3.00-3.40 3.00 3.10	D5 B3 D6 W1				Orange-brown initially clayey, SAND and GRAVEL. Gravel fraction of angular to rounded flint.		3.10						
4.00	D7												
5.00	D8												
6.00 6.30	D9 D10						6.30						
7.30	D11				Structureless CHALK composed of white slightly gravelly SILT with occasional gravel size flints.								
8.30	D12												
9.30	D13												
10.00	D14						10.00						
REMARKS Borehole completed at 10.00m depth 1. Excavating a pit from 0.00m to 1.20m for 1.25 hours 2. Borehole cased to 10.00m depth 3. Standpipe installed to 10.00m depth								Project No 11985					
								Scale 1:50	Page 1/1				
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample S/C - SPT Spoon/Cone Water Strike Water Rise N - SPT Blows for 0.3m - Blows for quoted penetration V - Vane Shear Test Cohesion () kPa Level on completion Level casing withdrawn Standpipe Level				Groundwater Strikes						Groundwater Observations			
				Depth m						Depth m			
				No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	3.10	1.80	medium	3.10	not	20/11/09	10.00	10.00	3.80				
						20/11/09	10.00	0.00	3.80				

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING					WINDOW SAMPLE WS1																						
			Date: 19/11/09		Hole Size: 110mm dia to 3.00m			Ground Level:																						
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m																							
Depth m	Type	Result																												
0.50	ES1			MADE GROUND - Soft, brown, slightly gravelly, slightly sandy, CLAY. Gravel fraction of angular to sub-rounded flint, quartzite and rare brick, charcoal and asphalt fragments.		0.90																								
1.20-2.00	U1			MADE GROUND - Grey and black, SAND and GRAVEL. Gravel fraction of angular to sub-angular concrete and granodiorite. Rare sub-rounded to rounded sandstone and quartzite. MADE GROUND - Grey green, slightly gravelly, silty SAND. Gravel of sub-angular to sub-rounded flint and brick. Firm, orange brown sandy CLAY.		1.30																								
1.20	ES2					1.35																								
1.30	ES3																													
1.75	ES4			Orange brown, slightly clayey SAND AND GRAVEL. Gravel fraction of sub-angular to sub-rounded flint.		2.00																								
2.00-3.00	U2																													
2.80	ES5																													
				Hole completed at 3.00m depth																										
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable								Project No 11985																						
								Scale 1:50	Page 1/1																					
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ - Water Strike P () - Hand Penetrometer ∇ - Depth to Water Cohesion () kPa on completion ∇s - Standpipe Level			Groundwater Strikes Depth m <table border="1"> <tr> <th>No</th> <th>Struck</th> <th>Rose to</th> <th>Rate</th> <th>Cased</th> <th>Sealed</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					No	Struck	Rose to	Rate	Cased	Sealed							Groundwater Observations Depth m <table border="1"> <tr> <th>Date</th> <th>Hole</th> <th>Casing</th> <th>Water</th> </tr> <tr> <td>19/11/09</td> <td>3.00</td> <td></td> <td>dry</td> </tr> </table>			Date	Hole	Casing	Water	19/11/09	3.00		dry
No	Struck	Rose to	Rate	Cased	Sealed																									
Date	Hole	Casing	Water																											
19/11/09	3.00		dry																											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS2																						
			Date: 19/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:																						
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m																						
Depth m	Type	Result																											
0.50	ES1			MADE GROUND - ASPHALT. MADE GROUND - Light grey and orange brown, very sandy GRAVEL. Gravel fraction of angular to sub-angular granodiorite. MADE GROUND - Black, slightly clayey, sandy GRAVEL. Gravel fraction of angular to sub-angular granodiorite. MADE GROUND - Brown and grey, clayey, very sandy GRAVEL with occasional brick cobbles. Gravel fraction of angular to sub-angular brick and granodiorite. Rare angular to sub-rounded quartzite and flint.		0.05 0.25 0.35																							
1.20-2.00	U1					1.30																							
1.45	ES2			Soft grey green, slightly sandy CLAY with occasional sub-angular to rounded flint. Becoming slightly gravelly with depth.		1.60																							
1.90	ES3			Soft, orange-brown, sandy CLAY with occasional sub-angular to sub-rounded flint gravel.																									
2.00-3.00	U2					2.50																							
2.75	ES4		1 X	Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to sub-rounded flint.		3.00																							
				Hole completed at 3.00m depth																									
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Running sand conditions associated with water strike								Project No 11985																					
								Scale 1:50																					
								Page 1/1																					
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample ∇ Water Strike ∇ Depth to Water on completion J - Jar Sample M - Mackintosh Probe V - Vane Shear Test Cohesion () kPa P () - Hand Penetrometer Cohesion () kPa ∇s Standpipe Level			Groundwater Strikes Depth m <table border="1"> <tr> <th>No</th> <th>Struck</th> <th>Rose to</th> <th>Rate</th> <th>Cased</th> <th>Sealed</th> </tr> <tr> <td>1</td> <td>2.70</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				No	Struck	Rose to	Rate	Cased	Sealed	1	2.70					Groundwater Observations Depth m <table border="1"> <tr> <th>Date</th> <th>Hole</th> <th>Casing</th> <th>Water</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>			Date	Hole	Casing	Water				
No	Struck	Rose to	Rate	Cased	Sealed																								
1	2.70																												
Date	Hole	Casing	Water																										

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING					WINDOW SAMPLE WS3				
			Date: 19/11/09		Hole Size: 110mm dia to 3.00m			Ground Level:				
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result										
0.40	ES1			MADE GROUND - ASPHALT.		0.14 0.25						
1.20-2.00 1.30	U1 ES2			MADE GROUND - Light grey, mottled orange brown, slightly silty, very sandy GRAVEL. Gravel fraction of angular to sub-angular granodiorite. MADE GROUND - Brown, mottled grey, clayey, very sandy GRAVEL, becoming very clayey with depth. Gravel fraction of angular to sub-angular brick, granodiorite, quartzite, flint and rare tile. Occasional soft black organic clay pockets, becoming more clayey with depth. Soft, orange-brown, sandy CLAY with occasional sub-angular to rounded flint gravel. Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to rounded flint.		0.70 1.55						
1.90 2.00-3.00	ES3 U2			Soft, orange-brown, gravelly, sandy CLAY. Gravel fraction of sub-angular to rounded flint.		2.25						
2.80	ES4		1 Σ	Hole completed at 3.00m depth		3.00						
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable								Project No 11985				
								Scale 1:50	Page 1/1			
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P () - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level			Groundwater Strikes						Groundwater Observations			
			Depth m						Depth m			
			No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	2.60											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS4						
Date: 19/11/09			Hole Size: 110mm dia to 3.00m				Ground Level:						
Samples and in-situ Tests			(Date) Water	Description of Strata			Legend	Depth m	O.D. Level m				
Depth m	Type	Result											
0.20	ES1			MADE GROUND - ASPHALT.				0.10					
0.60	ES2			MADE GROUND - Soft, grey green, gravelly, sandy CLAY. Gravel fraction of sub-angular to angular brick, wood, sandstone and quartzite. Rare sub-rounded to rounded quartzite.				0.30					
1.05	ES3			MADE GROUND - Soft, brown, gravelly, sandy CLAY. Gravel fraction of angular to sub-rounded quartz, rare brick.				1.00					
1.20-2.00	U1			MADE GROUND - Black, clayey GRAVEL. Gravel fraction of angular to sub-angular granodiorite.				1.10					
1.60	ES4			Soft, dark grey green, sandy CLAY with occasional sub-angular to rounded quartz gravel. Faint organic odour. Becoming gravelly below 1.80m depth. Gravel fraction of sub-angular to sub-rounded flint.									
2.00-3.00	U2			Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to rounded flint, quartzite and quartz.				2.00					
2.50	ES5												
				Hole completed at 3.00m depth				3.00					
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable													
								Project No 11985					
								Scale 1:50	Page 1/1				
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample ✓ Water Strike ✓ Depth to Water on completion			J - Jar Sample M - Mackintosh Probe V - Vane Shear Test Cohesion () kPa P() - Hand Penetrometer Cohesion () kPa ✓s Standpipe Level			Groundwater Strikes Depth m No Struck Rose to Rate Cased Sealed				Groundwater Observations Date Hole Casing Water			
						1 2.00							

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS5					
			Date: 19/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:					
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result										
0.20	ES1			MADE GROUND - Soft, brown, slightly sandy, gravelly CLAY. Gravel fraction of angular to sub-rounded flint, brick and sandstone. MADE GROUND - Red brown, becoming black below 1.05m, clayey SAND AND GRAVEL. Gravel fraction of angular to sub-angular brick, flint and rare wood.		0.35						
0.50	ES2											
1.20-2.00	U1			Soft, light brown, sandy CLAY with occasional sub-angular to rounded quartzite and flint gravel. Frequent orange-brown stained root traces.		1.35						
1.70	ES3											
2.00-3.00	U2			Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to rounded quartzite and flint.		2.40						
2.60	ES4											
				Hole completed at 3.00m depth		3.00						
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable							Project No 11985					
							Scale 1:50	Page 1/1				
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P () - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level			Groundwater Strikes						Groundwater Observations			
			Depth m						Depth m			
			No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	2.60											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS6					
			Date: 19/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:					
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result										
0.50	ES1		1 1/2	MADE GROUND - Ornamental GRAVEL. MADE GROUND - Dark grey black, clayey, very sandy GRAVEL. Gravel fraction of angular to sub-rounded flint, concrete, clinker and metal.		0.05						
0.80	ES2			MADE GROUND - Light red brown, grey, clayey, sandy GRAVEL. Gravel fraction of angular to sub-angular brick, concrete, flint, plastic and metal.		0.60						
1.10	ES3			MADE GROUND - Very soft, grey, sandy, gravelly CLAY. Gravel fraction of angular to sub-angular flint, brick, concrete, ash and clinker. Soft, brown, slightly gravelly, slightly sandy CLAY. Gravel fraction of angular to sub-rounded flint and ironstone.		1.00						
1.20-2.00	U1					1.25						
1.50	ES4					2.10						
2.00-3.00	U2			Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to sub-rounded flint.		3.00						
2.80	ES5		Hole completed at 3.00m depth									
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable								Project No 11985				
								Scale Page 1:50 1/1				
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ☒ Water Strike P () - Hand Penetrometer ▼ Depth to Water Cohesion () kPa on completion ▼s Standpipe Level			Groundwater Strikes				Groundwater Observations					
			Depth m						Depth m			
			No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	1.80											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING					WINDOW SAMPLE WS7				
			Date: 20/11/09		Hole Size: 110mm dia to 3.00m			Ground Level:				
Samples and in-situ Tests			(Date) Water	Description of Strata			Legend	Depth m	O.D. Level m			
Depth m	Type	Result										
0.30	ES1		1 Σ	MADE GROUND - Ornamental GRAVEL.				0.10				
0.90	ES2			MADE GROUND - Firm, friable, dark grey, slightly sandy, gravelly CLAY. Gravel fraction of sub-angular to sub-rounded flint and brick.				0.70				
1.20-2.00	U1			Soft, grey green, slightly sandy CLAY with occasional sub-angular to rounded flint gravel. Faint organic odour.								
1.60	ES3			Soft, orange-brown, sandy, gravelly CLAY. Gravel fraction of flint and rare quartzite and chalk.				1.55				
2.00-3.00	U2							3.00				
			Hole completed at 3.00m depth									
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable								Project No 11985				
								Scale 1:50	Page 1/1			
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ☒ Water Strike P () - Hand Penetrometer ☒ Depth to Water Cohesion () kPa on completion ☒s Standpipe Level			Groundwater Strikes						Groundwater Observations			
			Depth m						Depth m			
			No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	2.80											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS8		
			Date: 20/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:		
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m		
Depth m	Type	Result							
0.40	ES1		1 X	MADE GROUND - Very soft, brown, slightly sandy, gravelly CLAY. Gravel fraction of angular to sub-angular flint, rare brick.		0.55			
0.80	ES2			Soft, light brown, slightly sandy, gravelly CLAY. Gravel fraction of angular to sub-rounded flint.		1.10			
1.20-2.00	U1			Soft, light pale brown, locally mottled orange-brown sandy CLAY.		1.30			
1.50	ES3			Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to rounded flint. Occasional sandy and gravelly clay bands throughout.					
2.00-3.00	U2								
3.00	ES4			Hole completed at 3.00m depth		3.00			
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable								Project No 11985	
								Scale 1:50	Page 1/1
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P () - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level				Groundwater Strikes Depth m No Struck Rose to Rate Cased Sealed			Groundwater Observations Date Hole Casing Water		
				1 2.80			20/11/09 3.00 dry		

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS9									
			Date: 20/11/09		Hole Size: 110mm dia to 2.50m		Ground Level:									
Samples and in-situ Tests			(Date)	Description of Strata			Legend	Depth m	O.D. Level m							
Depth m	Type	Result	Water													
0.25	ES1		1 X	MADE GROUND - Soft, brown, slightly gravelly, slightly sandy CLAY. Gravel fraction of sub-angular flint and sandstone.				0.10								
1.20-2.00	U1			MADE GROUND - Orange-brown, very clayey SAND AND GRAVEL with rare brick and breeze block cobbles. Gravel fraction of angular to sub-angular flint.				1.30								
1.80	ES2			POSSIBLE MADE GROUND - Orange-brown, clayey SAND AND GRAVEL. Gravel fraction of sub-angular to sub-rounded flint.												
2.00-2.50	U2			Hole abandoned at 2.50m depth				2.50								
REMARKS							Project No									
1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Hole abandoned at 2.50m depth due to possible pipe obstruction							11985									
							Scale	Page								
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P () - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level							Groundwater Strikes						Groundwater Observations			
							Depth m						Depth m			
							No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
1	1.87															

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING					WINDOW SAMPLE WS10			
Date: 19/11/09			Hole Size: 110mm dia to 3.00m					Ground Level:			
Samples and in-situ Tests			(Date)	Description of Strata				Legend	Depth m	O.D. Level m	
Depth m	Type	Result	Water								
0.30	ES1			MADE GROUND - ASPHALT. MADE GROUND - Brown, clayey, very sandy GRAVEL. Gravel fraction of sub-angular to sub-rounded flint. Rare angular to sub-angular brick fragments. MADE GROUND - Light grey, locally mottled orange-brown, slightly silty SAND AND GRAVEL. Gravel fraction of sub-angular to sub-rounded flint and rare brick.					0.07 0.40		
1.00 1.20-2.00	ES2 U1								1.55		
1.90 2.00-3.00	ES3 U2			Orange-brown, slightly silty SAND AND GRAVEL. Gravel fraction of sub-angular to rounded flint.					2.35		
2.75	ES4		1 Σ	Soft, light grey, mottled orange-brown CLAY/SILT.					3.00		
				Hole completed at 3.00m depth							
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable										Project No 11985	
										Scale 1:50	Page 1/1
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample Σ Water Strike Σ Depth to Water on completion			J - Jar Sample M - Mackintosh Probe V - Vane Shear Test Cohesion () kPa P () - Hand Penetrometer Cohesion () kPa Σs Standpipe Level			Groundwater Strikes Depth m No Struck Rose to Rate Cased Sealed			Groundwater Observations Date Depth m Hole Casing Water		
						1 2.40					

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS11						
Date: 20/11/09			Hole Size: 110mm dia to 3.00m				Ground Level:						
Samples and in-situ Tests			(Date)	Inst.	Description of Strata			Legend	Depth m	O.D. Level m			
Depth m	Type	Result	Water										
0.35	ES1				MADE GROUND - ASPHALT.				0.10				
					MADE GROUND - Light brown SAND AND GRAVEL. Gravel fraction of angular to sub-angular flint.				0.20				
0.75	ES2				MADE GROUND - Very soft, light brown, locally orange-brown very gravelly, sandy CLAY. Gravel fraction of angular to sub-angular flint.				0.50				
1.20-2.00	U1				MADE GROUND - Very soft, dark grey to black, sandy gravelly CLAY with occasional brick cobbles. Gravel fraction of angular to sub-angular flint and occasional rare sub-rounded to rounded quartzite. Wood fragments.				1.60				
1.80	ES3				Light brown, locally clayey, sandy GRAVEL. Gravel fraction of coarse, angular to sub-rounded flint.				2.30				
2.00-3.00	U2												
2.60	ES4				Soft, orange-brown sandy CLAY with occasional angular to sub-angular flint gravel. Becoming gravelly at 2.65m depth.				2.70				
3.00	ES5				Light brown, very gravelly SAND. Gravel fraction of sub-angular to sub-rounded flint.				3.00				
					Hole completed at 3.00m depth								
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Gas monitoring standpipe installed to 1.50m depth													
										Project No 11985			
										Scale 1:50			
										Page 1/1			
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed Sample W - Water Sample ∇ - Water Sink ∇ Depth to Water on completion				J - Jar Sample M - Mackintosh Probe V - Vane Shear Test Cohesion () kPa P () - Hand Penetrometer Cohesion () kPa ∇s Standpipe Level				Groundwater Strikes Depth m No Struck Rose to Rate Cased Sealed			Groundwater Observations Date Hole Casing Water		
				1 1.80									

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS12						
			Date: 23/11/09		Hole Size: 110mm dia to 1.70m		Ground Level:						
Samples and in-situ Tests			(Date)	Inst	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result	Water										
0.10	ES1				MADE GROUND - Soft, brown, slightly sandy CLAY with occasional angular to sub-rounded flint and brick gravel. MADE GROUND - Very soft, light brown, sandy, gravelly CLAY with occasional concrete and brick cobbles. Gravel fraction of angular to sub-rounded flint, brick and rare clinker. Occasional metal fragments from 0.60m depth. MADE GROUND - Very soft, dark brown and grey, gravelly, sandy CLAY. Gravel fraction of angular to sub-angular brick, flint and concrete fragments. MADE GROUND - GRAVEL and COBBLE size pieces of concrete. Hole abandoned at 1.70m depth		0.15						
0.45	ES2												
0.85	ES3												
1.20-1.70	U1							1.30					
1.40	ES4							1.50					
							1.70						
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Hole abandoned in concrete 'rubble' at 1.70m depth 4. Gas monitoring standpipe installed to 1.70m depth								Project No 11985					
								Scale 1:50	Page 1/1				
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ☒ Water Strike P () - Hand Penetrometer ☒ Depth to Water Cohesion () kPa on completion ☒s Standpipe Level				Groundwater Strikes						Groundwater Observations			
				Depth m						Depth m			
				No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
						23/11/09	1.70		dry				

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS13						
			Date: 23/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:						
Samples and in-situ Tests			(Date) Water	Inst.	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result											
0.15 0.35	ES1 ES2				MADE GROUND - Ornamental GRAVEL, stained black. Hydrocarbon odour.		0.05 0.25						
0.75	ES3				MADE GROUND - Very soft, grey green, sandy, gravelly CLAY. Gravel fraction of angular to sub-rounded flint.		0.55						
1.20-2.00 1.25	U1 ES4				MADE GROUND - Very soft, grey mottled dark grey, gravelly, sandy CLAY. Gravel fraction of angular to sub-rounded flint. Occasional brick and plastic fragments.								
1.60	ES5				MADE GROUND - Dark brown and grey, locally stained black, clayey SAND AND GRAVEL. Gravel fraction of angular to sub-rounded flint with occasional metal, tile and clay pipe. Rare brick fragments from 0.90m depth. Possible faint solvent odour at 1.25m depth.		1.40						
2.00-3.00	U2				Very soft, brown, gravelly, sandy CLAY. Gravel fraction of angular to sub-rounded flint, rare quartzite.								
							2.50						
3.00	ES6				Brown, clayey SAND AND GRAVEL. Gravel fraction of angular to sub-angular flint.		3.00						
					Hole completed at 3.00m depth								
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Gas monitoring standpipe installed to 1.20m depth								Project No 11985					
								Scale 1:50	Page 1/1				
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P) - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level				Groundwater Strikes			Groundwater Observations						
				Depth m						Depth m			
				No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
	1	2.30											

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS14					
			Date: 23/11/09		Hole Size: 110mm dia to 3.00m		Ground Level:					
Samples and in-situ Tests			(Date) Water	Description of Strata	Legend	Depth m	O.D. Level m					
Depth m	Type	Result										
0.10 0.25	ES1 ES2			MADE GROUND - Soft, brown, slightly gravelly, slightly sandy CLAY. Gravel fraction of sub-angular to rounded flint. Rare chalk and brick fragments. MADE GROUND - Soft, brown, slightly sandy, gravelly CLAY. Gravel fraction of angular to sub-rounded flint, chalk and rare brick. MADE GROUND - Light brown, clayey SAND AND GRAVEL with cobble size pieces of brick, kerbstone and asphalt. Gravel fraction of angular to sub-rounded flint, brick and glass. Soft, orange brown mottled grey CLAY with rare sub-angular to sub-rounded quartzite gravel. Soft, grey, mottled black, slightly gravelly, slightly sandy CLAY. Gravel fraction of sub-angular flint and chalk.		0.15						
0.55	ES3					0.45						
1.20-2.00	U1					1.35						
1.80 2.00-3.00	ES4 U2					2.00						
2.50	ES5					3.00						
				Hole completed at 3.00m depth								
REMARKS 1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable							Project No 11985					
							Scale 1:50	Page 1/1				
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ▽ Water Strike P () - Hand Penetrometer ▽ Depth to Water Cohesion () kPa on completion ▽s Standpipe Level			Groundwater Strikes				Groundwater Observations					
			Depth m						Depth m			
			No	Struck	Rose to	Rate	Cased	Sealed	Date	Hole	Casing	Water
									23/11/09	3.00		dry

GROUND ENGINEERING Geo-Environmental Specialists 01733 566566			Site: STADIUM WAY, READING				WINDOW SAMPLE WS15				
Date: 23/11/09			Hole Size: 110mm dia to 3.00m				Ground Level:				
Samples and in-situ Tests			(Date)	Inst.	Description of Strata	Legend	Depth m	O.D. Level m			
Depth m	Type	Result	Water								
0.20	ES1				MADE GROUND - Soft, dark brown, sandy, gravelly CLAY with occasional brick cobbles below 0.25m depth. Gravel fraction of angular to sub-rounded flint, brick and plastic. Rare wood and concrete, glass and tile fragments.		0.65				
0.50	ES2										
1.00	ES3				MADE GROUND - Soft, light brown, slightly gravelly, slightly sandy CLAY. Gravel fraction of angular to sub-rounded brick, flint and metal.		1.30				
1.20-2.00	U1				MADE GROUND - Black, slightly gravelly SAND of ash. Gravel fraction of sub-angular clinker.		1.45				
1.35	ES4				MADE GROUND - Black to grey, silty SAND with occasional clinker and concrete gravel.		1.55				
1.75	ES5				MADE GROUND - GRAVEL and COBBLE size pieces of concrete.		1.65				
2.00-3.00	U2				MADE GROUND - Soft, dark brown locally black gravelly, sandy CLAY. Gravel fraction of angular to sub-rounded flint.		2.00				
2.05	ES6										
2.20	ES7				MADE GROUND - Soft, grey green, gravelly, sandy CLAY. Gravel fraction of coarse quartzite and brick. Oily sheen below 2.50m depth, but odourless.		2.70				
2.75	ES8				Soft, brown, gravelly, sandy CLAY. Gravel fraction of angular to sub-rounded flint.		3.00				
	ES9			Hole completed at 3.00m depth							
REMARKS						Project No 11985					
1. Starter pit dug from 0.00m to 1.20m depth 2. Hole sides stable 3. Gas monitoring standpipe installed to 2.50m depth						Scale 1:50 Page 1/1					
KEY D - Disturbed Sample J - Jar Sample B - Bulk Sample M - Mackintosh Probe U - Undisturbed Sample V - Vane Shear Test W - Water Sample Cohesion () kPa ∇ Water Strike P () - Hand Penetrometer ∇ Depth to Water Cohesion () kPa on completion ∇s Standpipe Level				Groundwater Strikes Depth m No Struck Rose to Rate Cased Sealed				Groundwater Observations Date Depth m Hole Casing Water			
				1 2.00							



Appendix C Analytical Results



Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781

WSP
WSP House
70 Chancery Lane
London
WC2A 1AF



No.4225

Attention : Helen Carter
Date : 30th November 2009
Your reference : C11598
Our reference : Test Report 09/3825
Location : Reading
Date samples received : 23/11/09
Status : Final Report
Issue : 1

Twenty three samples were received for analysis on 23rd November 2009 which was completed on 30th November 2009. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced.

All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

J W Farrell- Jones CChem FRSC
Chartered Chemist

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

Report : Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-2	3-4	5-6	7-8	9-10	11	12-13	14-15	16-17	18-19	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS11	WS11	WS11	WS11	WS6	WS6	WS6	WS6	WS6	WS7			
Depth	`	0.75	1.8	2.6	0.50	0.8	1.10	2.80	3.0	0.30			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD	Units	Method No.
Date of Receipt	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09			
Arsenic #	~	13.4	~	~	10.4	~	~	~	~	9.3	<0.5	mg/kg	TM030
Cadmium #	~	0.2	~	~	0.2	~	~	~	~	0.2	<0.1	mg/kg	TM030
Chromium #	~	20.2	~	~	20.6	~	~	~	~	16.8	<0.5	mg/kg	TM030
Copper #	~	30	~	~	31	~	~	~	~	26	<1	mg/kg	TM030
Lead #	~	49	~	~	61	~	~	~	~	56	<5	mg/kg	TM030
Mercury #	~	0.3	~	~	0.4	~	~	~	~	0.4	<0.1	mg/kg	TM030
Nickel #	~	17.0	~	~	21.9	~	~	~	~	16.1	<0.5	mg/kg	TM030
Selenium	~	<1	~	~	<1	~	~	~	~	<1	<1	mg/kg	TM030
Zinc #	~	76	~	~	92	~	~	~	~	70	<5	mg/kg	TM030
pH #	~	8.20	~	~	~	~	~	~	~	~	<0.01	pH units	TM19/PM11
Sulphate - soluble 2:1 extract	~	0.163	~	~	~	~	~	~	~	~	<0.003	g/l	TM038
Organic Matter	~	1.9	~	~	~	~	~	~	~	~	<0.2	%	TM21
<u>Speciated Phenols by HPLC</u>													
Resorcinol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
Catechol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
Phenol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
m/p-cresol	~	~	~	~	<0.02	~	~	~	~	~	<0.02	mg/kg	TM026
o-cresol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
Total cresols	~	~	~	~	<0.03	~	~	~	~	~	<0.03	mg/kg	TM026
Xylenols	~	~	~	~	<0.06	~	~	~	~	~	<0.06	mg/kg	TM026
1-naphthol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
2,3,5-trimethyl phenol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
2-isopropylphenol	~	~	~	~	<0.01	~	~	~	~	~	<0.01	mg/kg	TM026
Total Speciated Phenols HPLC	~	~	~	~	<0.1	~	~	~	~	~	<0.1	mg/kg	TM026
<u>SVOCs</u>	~	see tab	~	~	see tab	~	~	~	~	see tab	<10	µg/ kg	TM16/PM8
<u>VOCs</u> #	~	see tab	~	~	see tab	~	~	~	~	see tab	<1-27	µg/ kg	TM15/PM10
EPH (C8-C40) #	~	~	~	~	~	~	~	~	~	~	<30	mg/ kg	TM5/PM8
<u>GRO (C4-12)</u>													
GRO (C4-C8) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C8-C12) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C4-12) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
Asbestos screen*	~	NAD	~	~	NAD	~	~	~	~	NAD	Y/N	n/a	subcontracted

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

VOC Report : SOLID

J E Sample No.	3-4	9-10	18-19	26-27	30-31	39	40				Please see attached notes for all abbreviations and acronyms		
Sample ID	WS11	WS6	WS7	WS8	WS9	WS8	WS6						
Depth	0.75	0.50	0.30	1.50	0.25	0.4	1.50						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09				LOD	Units	Method No.
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Methyl Tertiary Butyl Ether	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Chloromethane #	<3	8	5	<3	<3	7	<3				<3	µg/ kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1				<1	µg/ kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
1,1-Dichloroethene #	<6	<6	<6	<6	<6	<6	<6				<6	µg/ kg	TM15/PM10
Carbon Disulphide	NA	NA	NA	NA	NA	NA	NA				<3	µg/ kg	TM15/PM10
Dichloromethane #	<7	<7	<7	<7	<7	<7	<7				<7	µg/ kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Chloroform #	<3	3	<3	<3	3	4	<3				<3	µg/ kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Benzene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Trichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6	<6				<6	µg/ kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
cis-1-3-Dichloropropene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Toluene #	<3	4	12	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
trans-1-3-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Tetrachloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Ethylbenzene #	<3	4	10	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
p/m-Xylene #	<6	17	43	<6	<6	<6	<6				<6	µg/ kg	TM15/PM10
o-Xylene #	<3	<3	6	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Styrene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromoform #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	4	4	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5	<5				<5	µg/ kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	14	12	<6	<6	<6	<6				<6	µg/ kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7				<7	µg/ kg	TM15/PM10
Hexachlorobutadiene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Naphthalene #	<27	<27	<27	<27	<27	<27	<27				<27	µg/ kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7				<7	µg/ kg	TM15/PM10

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Reading
Contact: Helen Carter
JE Job No.: 09/3825

SVOC Report : SOLID

J E Sample No.	3-4	9-10	18-19	26-27	30-31	39	40				Please see attached notes for all abbreviations and acronyms		
Sample ID	WS11	WS6	WS7	WS8	WS9	WS8	WS6						
Depth	0.75	0.50	0.30	1.50	0.25	0.4	1.50						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09	20/11/09						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09				LOD	Units	Method No.
Phenols													
2-Chlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Phenol	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
PAHs													
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2-Methylnaphthalene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Naphthalene	<10	78	<10	<10	<10	88	<10				<10	µg/ kg	TM16/PM8
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Acenaphthene	<10	48	<10	<10	<10	333	<10				<10	µg/ kg	TM16/PM8
Fluorene	<10	52	<10	<10	<10	300	<10				<10	µg/ kg	TM16/PM8
Phenanthrene	98	553	192	<10	34	4750	<10				<10	µg/ kg	TM16/PM8
Anthracene	49	273	89	<10	13	1851	<10				<10	µg/ kg	TM16/PM8
Fluoranthene	175	1446	348	<10	82	11447	<10				<10	µg/ kg	TM16/PM8
Pyrene	163	1426	346	<10	82	9919	<10				<10	µg/ kg	TM16/PM8
Benz(a)anthracene	105	601	149	<10	86	4407	<10				<10	µg/ kg	TM16/PM8
Chrysene	100	824	193	<10	73	5053	<10				<10	µg/ kg	TM16/PM8
Benzo(bk)fluoranthene	137	1473	194	<10	75	10072	<10				<10	µg/ kg	TM16/PM8
Benzo(a)pyrene	47	852	83	<10	39	6262	<10				<10	µg/ kg	TM16/PM8
Indeno(123cd)pyrene	<10	270	<10	<10	<10	2694	<10				<10	µg/ kg	TM16/PM8
Dibenzo(ah)anthracene	<10	79	<10	<10	<10	556	<10				<10	µg/ kg	TM16/PM8
Benzo(ghi)perylene	<10	654	<10	<10	<10	3921	<10				<10	µg/ kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Butylbenzyl phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Di-n-butyl phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Di-n-Octyl phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Bromophenylphenylether	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Carbazole	<10	<10	<10	<10	<10	162	<10				<10	µg/ kg	TM16/PM8
Dibenzofuran	<10	<10	<10	<10	<10	159	<10				<10	µg/ kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Isophorone	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
N-nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10				<10	µg/ kg	TM16/PM8

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. Your final report will reflect this, with non-MCERTS results on separate pages.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Asbestos screens where requested will be undertaken by a UKAS accredited laboratory.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory. It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to tap water, surface water and groundwater only, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples. All samples are treated as groundwaters and analysis performed on settled samples unless we are instructed otherwise.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any analysis that may be compromised highlighted on your schedule/ report by the use of a symbol.

The use of any of the following symbols indicates that the sample was deviating and the test result may be unreliable:

- \$ sample temperature on receipt considered inappropriate for analysis requested
- ^ samples exceeding recommended holding times
- & samples received in inappropriate containers (e.g. volatile samples not submitted in VOC jars/vials)
- ~ no sampling date given, unable to confirm if samples are with acceptable holding times

ABBREVIATIONS and ACRONYMS USED

- UKAS accredited

M - MCERTS accredited

NAD - No Asbestos Detected

ND - None Detected (usually refers to VOC and/SVOC TICs)

SS - Calibrated against a single substance

* - analysis subcontracted to a Jones Environmental approved laboratory.

W - Results expressed on as received basis

+ Failed AQC results should be considered as indicative only and are not accredited.

++ Result outside calibration range, may be possible to re-run with higher detection limits



Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781

WSP
WSP House
70 Chancery Lane
London
WC2A 1AF



No.4225

Attention : Helen Carter
Date : 2nd December 2009
Your reference : C11598
Our reference : Test Report 09/3825
Location : Stadium Way, Reading
Date samples received : 24/11/096
Status : Final Report
Issue : 2

Twenty six samples were received for analysis on 24th November 2009 which was completed on 1st December 2009. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced.

All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

J W Farrell- Jones CChem FRSC
Chartered Chemist

JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Report: Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	41-42	43-44	45-46	47-48	49-50	51-52	53-54	55-56	57-58	59-60	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS12	WS12	WS12	WS12	WS15	WS15	WS15	WS15	WS15	WS15			
Depth	0.1	0.45	0.85	1.40	0.20	0.5	1.0	1.5	1.75	2.05			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	LOD	Units	Method No.
<u>TPHCWG - Aliphatics</u>													
>C5-C6 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>C6-C8 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>C8-C10 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>C10-C12	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>C12-C16	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>C16-C21	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>C21-C35	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	~	~	~	~	~	~	~	<15	~	~	<15	mg/ kg	
<u>TPHCWG - Aromatics</u>													
>C5-EC7 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	~	~	~	~	~	~	~	<0.1	~	~	<0.1	mg/ kg	TM36/PM12
>EC10-EC12	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>EC12-EC16	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>EC16-EC21	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
>EC21-EC35	~	~	~	~	~	~	~	<5	~	~	<5	mg/ kg	TM5/PM8
Total aromatics C5-35	~	~	~	~	~	~	~	<15	~	~	<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	~	~	~	~	~	~	~	<30	~	~	<30	mg/ kg	
<u>BTEX/MTBE# GC-FID</u>													
MTBE #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
Benzene #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
Toluene #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
Ethyl benzene #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
m/p-Xylene #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
o-Xylene #	~	~	~	~	~	~	~	<5	~	~	<5	µg/ kg	TM31/PM7
<u>PCB (7 congeners)</u>											<5	µg/ kg	TM17/PM8
PCB 28	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 52	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 101	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 118	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 138	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 153	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
PCB 180	~	~	~	~	<5	~	~	~	~	~	<5	µg/ kg	TM17/PM8
Total 7 PCBs	~	~	~	~	<35	~	~	~	~	~	<35	µg/ kg	TM17/PM8

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Report: Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	61-62	63-64	65-66	67-68	69-70	71-72	73-74	75-76	77-78	79-80	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS15	WS15	WS14	WS14	WS14	WS14	WS14	WS13	WS13	WS13			
Depth	2.20	2.75	0.10	0.25	0.55	1.8	2.20	GL	0.15	0.35			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD	Units	Method No.
Date of Receipt	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09			
Arsenic #	~	15.2	~	21.9	~	~	~	~	~	~	<0.5	mg/kg	TM030
Cadmium #	~	0.1	~	0.3	~	~	~	~	~	~	<0.1	mg/kg	TM030
Chromium #	~	17.7	~	18.1	~	~	~	~	~	~	<0.5	mg/kg	TM030
Copper #	~	9	~	19	~	~	~	~	~	~	<1	mg/kg	TM030
Lead #	~	0.3	~	0.3	~	~	~	~	~	~	<5	mg/kg	TM030
Mercury #	~	17.8	~	21.5	~	~	~	~	~	~	<0.1	mg/kg	TM030
Nickel #	~	7	~	50	~	~	~	~	~	~	<0.5	mg/kg	TM030
Selenium	~	1	~	<1	~	~	~	~	~	~	<1	mg/kg	TM030
Zinc #	~	29	~	56	~	~	~	~	~	~	<5	mg/kg	TM030
pH #	~	~	~	7.97	~	~	~	~	~	~	<0.01	pH units	TM19/PM11
Sulphate - soluble 2:1 extract	~	~	~	0.125	~	~	~	~	~	~	<0.003	g/l	TM038
Organic Matter	~	0.4	~	~	~	~	~	~	~	~	<0.2	%	TM21
<u>Speciated Phenols by HPLC</u>													
Resorcinol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
Catechol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
Phenol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
m/p-cresol	<0.02	~	~	~	~	~	~	~	~	~	<0.02	mg/kg	TM026
o-cresol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
Total cresols	<0.03	~	~	~	~	~	~	~	~	~	<0.03	mg/kg	TM026
Xylenols	<0.06	~	~	~	~	~	~	~	~	~	<0.06	mg/kg	TM026
1-naphthol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
2,3,5-trimethyl phenol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
2-isopropylphenol	<0.01	~	~	~	~	~	~	~	~	~	<0.01	mg/kg	TM026
Total Speciated Phenols HPLC	<0.1	~	~	~	~	~	~	~	~	~	<0.1	mg/kg	TM026
<u>SVOCs</u>	see tab	~	~	see tab	~	~	~	~	~	~	<10	µg/ kg	TM16/PM8
<u>VOCs #</u>	see tab	~	~	see tab	~	~	~	~	~	~	<1-27	µg/ kg	TM15/PM10
EPH (C8-C40) #	~	<30	~	~	~	~	119	~	~	~	<30	mg/ kg	TM5/PM8
GRO (C4-12)													
GRO (C4-C8) #	~	<100	~	~	~	~	<100	~	~	~	<100	µg/kg	TM36/PM12
GRO (C8-C12) #	~	<100	~	~	~	~	<100	~	~	~	<100	µg/kg	TM36/PM12
GRO (C4-12) #	~	<100	~	~	~	~	<100	~	~	~	<100	µg/kg	TM36/PM12
Asbestos screen*	~	~	~	NAD	~	~	~	~	~	~	Y/N	n/a	subcontracted

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Report: Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	61-62	63-64	65-66	67-68	69-70	71-72	73-74	75-76	77-78	79-80	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS15	WS15	WS14	WS14	WS14	WS14	WS14	WS13	WS13	WS13			
Depth	2.20	2.75	0.10	0.25	0.55	1.8	2.20	GL	0.15	0.35			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD	Units	Method No.
Date of Receipt	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09			
TPHCWG - Aliphatics													
>C5-C6 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C6-C8 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C8-C10 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C10-C12	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C12-C16	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C16-C21	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C21-C35	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	<15	~	~	<15	~	~	~	~	~	~	<15	mg/ kg	
TPHCWG - Aromatics													
>C5-EC7 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	<0.1	~	~	<0.1	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC10-EC12	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC12-EC16	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC16-EC21	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC21-EC35	<5	~	~	<5	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
Total aromatics C5-35	<15	~	~	<15	~	~	~	~	~	~	<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	<30	~	~	<30	~	~	~	~	~	~	<30	mg/ kg	
BTEx/MTBE# GC-FID													
MTBE #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Benzene #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Toluene #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Ethyl benzene #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
m/p-Xylene #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
o-Xylene #	<5	~	~	<5	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Report: Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	81-82	83-84	85-86	87-88	89	90					Please see attached notes for all abbreviations and acronyms		
Sample ID	WS13	WS13	WS13	WS13	WS1	WS1							
Depth	0.70	1.25	1.60	3.0	1.20	1.75							
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J							
Sample Date	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09	23/11/09							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1					LOD	Units	Method No.
Date of Receipt	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09	24/11/09							
TPHCWG - Aliphatics													
>C5-C6 #	<0.1	<0.1	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>C6-C8 #	<0.1	0.3	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>C8-C10 #	<0.1	0.4	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>C10-C12	<5	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>C12-C16	<5	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>C16-C21	10	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>C21-C35	227	195	~	~	~	~					<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	237	195	~	~	~	~					<15	mg/ kg	
TPHCWG - Aromatics													
>C5-EC7 #	<0.1	<0.1	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	<0.1	0.2	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	<0.1	0.7	~	~	~	~					<0.1	mg/ kg	TM36/PM12
>EC10-EC12	<5	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>EC12-EC16	<5	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>EC16-EC21	<5	<5	~	~	~	~					<5	mg/ kg	TM5/PM8
>EC21-EC35	97	7	~	~	~	~					<5	mg/ kg	TM5/PM8
Total aromatics C5-35	97	8	~	~	~	~					<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	334	203	~	~	~	~					<30	mg/ kg	
BTEx/MTBE# GC-FID													
MTBE #	<5	10	~	~	~	~					<5	µg/ kg	TM31/PM7
Benzene #	<5	<5	~	~	~	~					<5	µg/ kg	TM31/PM7
Toluene #	<5	104	~	~	~	~					<5	µg/ kg	TM31/PM7
Ethyl benzene #	<5	53	~	~	~	~					<5	µg/ kg	TM31/PM7
m/p-Xylene #	<5	212	~	~	~	~					<5	µg/ kg	TM31/PM7
o-Xylene #	<5	135	~	~	~	~					<5	µg/ kg	TM31/PM7

Jones Environmental Laboratory

Client Name: WSP
Reference: C11598
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

VOC Report : SOLID

J E Sample No.	49-50	61-62	67-68	83-84							Please see attached notes for all abbreviations and acronyms		
Sample ID	WS15	WS15	WS14	WS13									
Depth	0.20	2.20	0.25	1.25									
COC No / misc													
Containers	V J	V J	V J	V J									
Sample Date	23/11/09	23/11/09	23/11/09	23/11/09									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	24/11/09	24/11/09	24/11/09	24/11/09							LOD	Units	Method No.
Dichlorodifluoromethane	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
Methyl Tertiary Butyl Ether	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
Chloromethane #	<3	<3	<3	30							<3	µg/ kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
Bromomethane	<1	<1	<1	<1							<1	µg/ kg	TM15/PM10
Chloroethane #	<2	<2	<2	30							<2	µg/ kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
1,1-Dichloroethene #	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
Carbon Disulphide	NA	NA	NA	NA							<3	µg/ kg	TM15/PM10
Dichloromethane #	76	72	45	152							<7	µg/ kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
1,1-Dichloroethane #	<3	11	<3	8							<3	µg/ kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	4							<3	µg/ kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Chloroform #	<3	<3	<3	24							<3	µg/ kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	314							<3	µg/ kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
Benzene #	<3	<3	<3	4							<3	µg/ kg	TM15/PM10
Trichloroethene #	<3	<3	<3	102							<3	µg/ kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6							<6	µg/ kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
cis-1-3-Dichloropropene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
Toluene #	10	9	9	366							<3	µg/ kg	TM15/PM10
trans-1-3-Dichloropropene #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Tetrachloroethene #	4	7	<3	149							<3	µg/ kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	132							<3	µg/ kg	TM15/PM10
p/m-Xylene #	<6	<6	8	522							<6	µg/ kg	TM15/PM10
o-Xylene #	<3	<3	4	258							<3	µg/ kg	TM15/PM10
Styrene #	<3	<3	<3	17							<3	µg/ kg	TM15/PM10
Bromoform #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	6							<3	µg/ kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2							<2	µg/ kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
Propylbenzene #	<4	<4	<4	19							<4	µg/ kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	47							<3	µg/ kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3							<3	µg/ kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5							<5	µg/ kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	124							<6	µg/ kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7	<7							<7	µg/ kg	TM15/PM10
Hexachlorobutadiene #	<4	<4	<4	<4							<4	µg/ kg	TM15/PM10
Naphthalene #	<27	<27	<27	97							<27	µg/ kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7	<7							<7	µg/ kg	TM15/PM10

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. Your final report will reflect this, with non-MCERTS results on separate pages.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Asbestos screens where requested will be undertaken by a UKAS accredited laboratory.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory. It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to tap water, surface water and groundwater only, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples. All samples are treated as groundwaters and analysis performed on settled samples unless we are instructed otherwise.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any analysis that may be compromised highlighted on your schedule/ report by the use of a symbol.

The use of any of the following symbols indicates that the sample was deviating and the test result may be unreliable:

- \$ sample temperature on receipt considered inappropriate for analysis requested
- ^ samples exceeding recommended holding times
- & samples received in inappropriate containers (e.g. volatile samples not submitted in VOC jars/vials)
- ~ no sampling date given, unable to confirm if samples are with acceptable holding times

ABBREVIATIONS and ACRONYMS USED

- UKAS accredited

M - MCERTS accredited

NAD - No Asbestos Detected

ND - None Detected (usually refers to VOC and/SVOC TICs)

SS - Calibrated against a single substance

* - analysis subcontracted to a Jones Environmental approved laboratory.

W - Results expressed on as received basis

+ Failed AQC results should be considered as indicative only and are not accredited.

++ Result outside calibration range, may be possible to re-run with higher detection limits



Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781

WSP Environment And Energy
WSP House
70 Chancery Lane
London
WC2A 1AF



No.4225

Attention : Helen Carter
Date : 2nd December 2009
Your reference : 12041674/001
Our reference : Test Report 09/3825 B3
Location : Stadium Way Industrial Estate, Reading
Date samples received : 25/11/09
Status : Final Report
Issue : 1

Fourty five samples were received for analysis on 25th November 2009 which was completed on 2nd December 2009. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced.

All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

J W Farrell-Jones CChem FRSC
Chartered Chemist

JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

JE Job No.: 09/3825

Report : Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

JE Job No.: 09/3825

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

Jones Environmental Laboratory

Client Name: WSP Environment And Energy

Report : Solids

Reference: 12041674/001

Location: Stadium Way Industrial Estate, Reading

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Contact: Helen Carter

JE Job No.: 09/3825

J E Sample No.	175	176	177	178	179						Please see attached notes for all abbreviations and acronyms		
Sample ID	BH3	BH3	BH3	BH3	BH3								
Depth	6.3	7.3	8.3	9.3	10.0								
COC No / misc													
Containers	B	B	B	B	B								
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	3	3	3	3	3	3	3	3	3	3			
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09						LOD	Units	Method No.
Arsenic #	~	~	~	~	~						<0.5	mg/kg	TM030
Cadmium #	~	~	~	~	~						<0.1	mg/kg	TM030
Chromium #	~	~	~	~	~						<0.5	mg/kg	TM030
Copper #	~	~	~	~	~						<1	mg/kg	TM030
Lead #	~	~	~	~	~						<5	mg/kg	TM030
Mercury #	~	~	~	~	~						<0.1	mg/kg	TM030
Nickel #	~	~	~	~	~						<0.5	mg/kg	TM030
Selenium	~	~	~	~	~						<1	mg/kg	TM030
Zinc #	~	~	~	~	~						<5	mg/kg	TM030
pH #	~	~	~	~	~						<0.01	pH units	TM19/PM11
Sulphate - soluble 2:1 extract	~	~	~	~	~						<0.003	g/l	TM038
Organic Matter	~	~	~	~	~						<0.2	%	TM21
<u>Speciated Phenols by HPLC</u>													
Resorcinol	~	~	~	~	~						<0.01	mg/kg	TM026
Catechol	~	~	~	~	~						<0.01	mg/kg	TM026
Phenol	~	~	~	~	~						<0.01	mg/kg	TM026
m/p-cresol	~	~	~	~	~						<0.02	mg/kg	TM026
o-cresol	~	~	~	~	~						<0.01	mg/kg	TM026
Total cresols	~	~	~	~	~						<0.03	mg/kg	TM026
Xylenols	~	~	~	~	~						<0.06	mg/kg	TM026
1-naphthol	~	~	~	~	~						<0.01	mg/kg	TM026
2,3,5-trimethyl phenol	~	~	~	~	~						<0.01	mg/kg	TM026
2-isopropylphenol	~	~	~	~	~						<0.01	mg/kg	TM026
Total Speciated Phenols	~	~	~	~	~						<0.1	mg/kg	TM026
<u>SVOCs</u>													
SVOCs #	~	~	~	~	~						<10	µg/ kg	TM16/PM8
VOCs #	~	~	~	~	~						<1-27	µg/ kg	TM15/PM10

Jones Environmental Laboratory

Client Name: WSP Environment And Energy

Reference: 12041674/001

Location: Stadium Way Industrial Estate, Reading

Contact: Helen Carter

JE Job No.: 09/3825

Report : Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	91-92	93	94-95	96	97-98	99-100	101-102	103-104	105-106	107-108	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS1	WS1	WS1	WS1	WS1	WS2	WS2	WS2	WS2	WS3			
Depth	0.50	1.2	1.30-1.35	1.75	2.8	0.50	1.45	1.9	2.75	0.40			
COC No / misc													
Containers	V J	V	V J	V	V J	V J	V J	V J	V J	V J			
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	3	3	3	3	3	3	3	3	3	3			
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	LOD	Units	Method No.
TPHCWG - Aliphatics													
>C5-C6 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>C6-C8 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>C8-C10 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>C10-C12	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
>C12-C16	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
>C16-C21	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
>C21-C35	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	<15	~	~	~	~	~	~	~	~	<15	<15	mg/ kg	
TPHCWG - Aromatics													
>C5-EC7 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	<0.1	~	~	~	~	~	~	~	~	<0.1	<0.1	mg/ kg	TM36/PM12
>EC10-EC12	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
>EC12-EC16	<5	~	~	~	~	~	~	~	~	<5	<5	mg/ kg	TM5/PM8
>EC16-EC21	<5	~	~	~	~	~	~	~	~	22	<5	mg/ kg	TM5/PM8
>EC21-EC35	<5	~	~	~	~	~	~	~	~	11	<5	mg/ kg	TM5/PM8
Total aromatics C5-35	<15	~	~	~	~	~	~	~	~	33	<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	<30	~	~	~	~	~	~	~	~	33	<30	mg/ kg	
EPH (C8-C40) #	~	~	~	~	~	667	~	~	<30	~	<30	mg/ kg	TM5/PM8
GRO (C4-12)													
GRO (C4-C8) #	~	~	~	~	~	<100	~	~	<100	~	<100	µg/kg	TM36/PM12
GRO (C8-C12) #	~	~	~	~	~	<100	~	~	<100	~	<100	µg/kg	TM36/PM12
GRO (C4-12) #	~	~	~	~	~	<100	~	~	<100	~	<100	µg/kg	TM36/PM12
Asbestos screen*	NAD	~	~	~	~	~	~	~	~	~	Y/N	n/a	subcontracted
BTEX/MTBE# GC-FID													
MTBE #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
Benzene #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
Toluene #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
Ethyl benzene #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
m/p-Xylene #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
o-Xylene #	<5	~	~	~	~	~	~	~	~	<5	<5	µg/ kg	TM31/PM7
Total Xylenes	<10	~	~	~	~	~	~	~	~	<10	<10	µg/ kg	TM31/PM7

Jones Environmental Laboratory

Client Name: WSP Environment And Energy

Reference: 12041674/001

Location: Stadium Way Industrial Estate, Reading

Contact: Helen Carter

JE Job No.: 09/3825

Report : Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	109-110	111-112	113-114	115-116	117-118	119-120	121-122	123-124	125-126	127-128	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS3	WS3	WS3	WS5	WS5	WS5	WS5	WS10	WS10	WS10			
Depth	1.30	1.9	2.8	0.2	0.50	1.7	2.60	0.30	1.0	1.9			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	3	3	3	3	3	3	3	3	3	3			
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	LOD	Units	Method No.
<u>TPHCWG - Aliphatics</u>													
>C5-C6 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>C6-C8 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>C8-C10 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>C10-C12	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>C12-C16	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>C16-C21	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>C21-C35	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	~	~	~	~	<15	~	~	~	<15	~	<15	mg/ kg	
<u>TPHCWG - Aromatics</u>													
>C5-EC7 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	~	~	~	~	<0.1	~	~	~	<0.1	~	<0.1	mg/ kg	TM36/PM12
>EC10-EC12	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>EC12-EC16	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>EC16-EC21	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
>EC21-EC35	~	~	~	~	<5	~	~	~	<5	~	<5	mg/ kg	TM5/PM8
Total aromatics C5-35	~	~	~	~	<15	~	~	~	<15	~	<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	~	~	~	~	<30	~	~	~	<30	~	<30	mg/ kg	
EPH (C8-C40) #	~	~	~	~	~	~	~	~	~	~	<30	mg/ kg	TM5/PM8
<u>GRO (C4-12)</u>													
GRO (C4-C8) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C8-C12) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C4-12) #	~	~	~	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
Asbestos screen*	~	~	~	~	NAD	~	~	~	~	~	Y/N	n/a	subcontracted
<u>BTEX/MTBE# GC-FID</u>													
MTBE #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
Benzene #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
Toluene #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
Ethyl benzene #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
m/p-Xylene #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
o-Xylene #	~	~	~	~	<5	~	~	~	<5	~	<5	µg/ kg	TM31/PM7
Total Xylenes	~	~	~	~	<10	~	~	~	<10	~	<10	µg/ kg	TM31/PM7

Jones Environmental Laboratory

Client Name: WSP Environment And Energy

Reference: 12041674/001

Location: Stadium Way Industrial Estate, Reading

Contact: Helen Carter

JE Job No.: 09/3825

Report : Solids

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	129-130	131-132	133-134	135-136	137-138	139-140	141	142	143	144	Please see attached notes for all abbreviations and acronyms		
Sample ID	WS10	WS4	WS4	WS4	WS4	WS4	BH1	BH1	BH1	BH1			
Depth	2.75	0.2	0.80	1.05	1.60	2.50	0.10	0.30	0.55	0.80			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	B	B	B	B			
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	3	3	3	3	3	3	3	3	3	3			
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	LOD	Units	Method No.
<u>TPHCWG - Aliphatics</u>													
>C5-C6 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C6-C8 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C8-C10 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>C10-C12	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C12-C16	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C16-C21	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>C21-C35	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
Total aliphatics C5-35	~	~	~	~	~	~	~	~	~	~	<15	mg/ kg	
<u>TPHCWG - Aromatics</u>													
>C5-EC7 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC7-EC8 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC8-EC10 #	~	~	~	~	~	~	~	~	~	~	<0.1	mg/ kg	TM36/PM12
>EC10-EC12	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC12-EC16	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC16-EC21	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
>EC21-EC35	~	~	~	~	~	~	~	~	~	~	<5	mg/ kg	TM5/PM8
Total aromatics C5-35	~	~	~	~	~	~	~	~	~	~	<15	mg/ kg	
Total aliphatics and aromatics(C5-35)	~	~	~	~	~	~	~	~	~	~	<30	mg/ kg	
EPH (C8-C40) #	~	~	34	~	~	~	~	~	~	~	<30	mg/ kg	TM5/PM8
<u>GRO (C4-12)</u>													
GRO (C4-C8)#	~	~	<100	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C8-C12)#	~	~	<100	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
GRO (C4-12)#	~	~	<100	~	~	~	~	~	~	~	<100	µg/kg	TM36/PM12
Asbestos screen*	~	~	~	~	~	~	~	~	~	~	Y/N	n/a	subcontracted
<u>BTEX/MTBE# GC-FID</u>													
MTBE #	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Benzene #	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Toluene #	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Ethyl benzene #	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
m/p-Xylene #	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
o-Xylene#	~	~	~	~	~	~	~	~	~	~	<5	µg/ kg	TM31/PM7
Total Xylenes	~	~	~	~	~	~	~	~	~	~	<10	µg/ kg	TM31/PM7

Jones Environmental Laboratory

Client Name: WSP Environment And Energy
Reference: 12041674/001
Location: Stadium Way Industrial Estate, Reading
Contact: Helen Carter
JE Job No.: 09/3825

VOC Report : SOLID

J E Sample No.	91-92	99-100	105-106	117-118	125-126	133-134	107-108				Please see attached notes for all abbreviations and acronyms		
Sample ID	WS1	WS2	WS2	WS5	WS10	WS4	WS3						
Depth	0.50	0.50	2.75	0.50	1.0	0.80	0.40						
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09				LOD	Units	Method No.
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Methyl Tertiary Butyl Ether	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1				<1	µg/ kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
1,1-Dichloroethene #	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
Carbon Disulphide	NA	NA	NA	NA	NA	NA	NA				<3	µg/ kg	TM15/PM10
Dichloromethane #	61	229	38	69	36	58	63				<7	µg/ kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Chloroform #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Benzene #	<3	5	<3	<3	<3	5	<3				<3	µg/ kg	TM15/PM10
Trichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6	<6				<6	µg/ kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
cis-1-3-Dichloropropene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Toluene #	37	58	9	17	9	84	16				<3	µg/ kg	TM15/PM10
trans-1-3-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Tetrachloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Ethylbenzene #	9	22	<3	<3	<3	17	5				<3	µg/ kg	TM15/PM10
p/m-Xylene #	30	79	<6	11	7	59	17				<6	µg/ kg	TM15/PM10
o-Xylene #	12	31	<3	5	<3	23	7				<3	µg/ kg	TM15/PM10
Styrene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromoform #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2	<2				<2	µg/ kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	10	<3	<3	<3	6	<3				<3	µg/ kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	µg/ kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5	<5				<5	µg/ kg	TM15/PM10
1,2,4-Trimethylbenzene #	11	30	<6	<6	<6	23	10				<6	µg/ kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7				<7	µg/ kg	TM15/PM10
Hexachlorobutadiene #	<4	<4	<4	<4	<4	<4	<4				<4	µg/ kg	TM15/PM10
Naphthalene #	<27	343	<27	51	<27	<27	2147				<27	µg/ kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7				<7	µg/ kg	TM15/PM10

J E Sample No.		91-92	99-100	105-106	117-118	125-126	133-134	107-108				Please see attached notes for all abbreviations and acronyms	
Sample ID	WS1	WS2	WS2	WS5	WS10	WS4	WS3						
Depth	0.50	0.50	2.75	0.50	1.0	0.80	0.40						
COC No / misc Containers	V J	V J	V J	V J	V J	V J	V J						
Sample Date	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09	19/11/09						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09	25/11/09				LOD	Units	Method No.
Phenols													
2-Chlorophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Phenol	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
PAHs													
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2-Methylnaphthalene	44	279	<10	36	<10	<10	<10	84			<10	µg/ kg	TM16/PM8
Naphthalene	40	483	<10	86	<10	<10	<10	283			<10	µg/ kg	TM16/PM8
Acenaphthylene	134	169	<10	121	<10	<10	<10	24			<10	µg/ kg	TM16/PM8
Acenaphthene	42	677	<10	33	<10	<10	<10	230			<10	µg/ kg	TM16/PM8
Fluorene	50	582	<10	46	<10	<10	<10	192			<10	µg/ kg	TM16/PM8
Phenanthrene	626	4303	<10	792	39	93	1779				<10	µg/ kg	TM16/PM8
Anthracene	298	1514	<10	324	12	42	475				<10	µg/ kg	TM16/PM8
Fluoranthene	1862	6744	<10	2032	96	315	1984				<10	µg/ kg	TM16/PM8
Pyrene	1648	5360	<10	1723	77	310	1515				<10	µg/ kg	TM16/PM8
Benzo(a)anthracene	760	1920	<10	879	60	219	569				<10	µg/ kg	TM16/PM8
Chrysene	925	2689	<10	1101	65	180	729				<10	µg/ kg	TM16/PM8
Benzo(bk)fluoranthene	1540	4807	<10	2304	110	350	1054				<10	µg/ kg	TM16/PM8
Benzo(a)pyrene	942	2789	<10	1407	59	195	676				<10	µg/ kg	TM16/PM8
Indeno(123cd)pyrene	443	1421	<10	703	26	103	262				<10	µg/ kg	TM16/PM8
Dibenzo(ah)anthracene	108	438	<10	154	<10	27	73				<10	µg/ kg	TM16/PM8
Benzo(ghi)perylene	487	1443	<10	698	39	122	300				<10	µg/ kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Butylbenzyl phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Di-n-butyl phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Di-n-Octyl phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Bromophenylphenylether	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Carbazole	46	309	<10	120	<10	<10	<10	252			<10	µg/ kg	TM16/PM8
Dibenzofuran	54	806	<10	59	<10	<10	<10	254			<10	µg/ kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Isophorone	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
N-nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10	<10			<10	µg/ kg	TM16/PM8

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. Your final report will reflect this, with non-MCERTS results on separate pages.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Asbestos screens where requested will be undertaken by a UKAS accredited laboratory.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory. It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to tap water, surface water and groundwater only, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples. All samples are treated as groundwaters and analysis performed on settled samples unless we are instructed otherwise.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any analysis that may be compromised highlighted on your schedule/ report by the use of a symbol.

The use of any of the following symbols indicates that the sample was deviating and the test result may be unreliable:

- \$ sample temperature on receipt considered inappropriate for analysis requested
- ^ samples exceeding recommended holding times
- & samples received in inappropriate containers (e.g. volatile samples not submitted in VOC jars/vials)
- ~ no sampling date given, unable to confirm if samples are with acceptable holding times

ABBREVIATIONS and ACRONYMS USED

- UKAS accredited

M - MCERTS accredited

NAD - No Asbestos Detected

ND - None Detected (usually refers to VOC and/SVOC TICs)

SS - Calibrated against a single substance

* - analysis subcontracted to a Jones Environmental approved laboratory.

W - Results expressed on as received basis

+ Failed AQC results should be considered as indicative only and are not accredited.

++ Result outside calibration range, may be possible to re-run with higher detection limits



Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781

WSP Environment And Energy
WSP House
70 Chancery Lane
London
WC2A 1AF



No.4225

Attention : Helen Carter
Date : 3rd December 2009
Your reference : 12041674/001
Our reference : Test Report 09/3825
Location : Stadium Way, Reading
Date samples received : 26/11/09
Status : Final Report
Issue : 1

Three samples were received for analysis on 26th November 2009 which was completed on 3rd December 2009. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. All interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

A handwritten signature in blue ink, appearing to read 'J W Farrell'.

J W Farrell- Jones CChem FRSC
Chartered Chemist

Jones Environmental Laboratory

Client Name: WSP

Report : Liquids

Reference: 12041674/001

Location: Stadium Way, Reading

Contact: Helen Carter

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

JE Job No.: 09/3825

H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

J E Sample No.	180-183	184-187	188-190							Please see attached notes for all abbreviations and acronyms		
Sample ID	BH2	BH3	EW									
Depth	-	-	-									
COC No / misc												
Containers	V G	V G	V G									
Sample Date	24/11/09	24/11/09	25/11/09									
Sample Type	Water	Water	Water									
Batch Number	4	4	4									
Date of Receipt	26/11/09	26/11/09	26/11/09							LOD	Units	Method No.
Arsenic - dissolved #	2.7	4.6	3.2							<2.5	µg/l	TM 030W
Boron - dissolved	72	139	93							<12	µg/l	TM 030W
Cadmium - dissolved #	<0.5	<0.5	<0.5							<0.5	µg/l	TM 030W
Chromium - dissolved #	<1.5	<1.5	<1.5							<1.5	µg/l	TM 030W
Copper - dissolved #	<7	<7	<7							<7	µg/l	TM 030W
Mercury - dissolved #	<1	<1	<1							<1	µg/l	TM 030W
Nickel - dissolved #	3	3	5							<2	µg/l	TM 030W
Lead - dissolved #	7	10	7							<5	µg/l	TM 030W
Selenium - dissolved #	<3	<3	<3							<3	µg/l	TM 030W
Zinc - dissolved #	5	5	3							<3	µg/l	TM 030W
pH#	8.34	7.76	7.91							<0.01	pH units	TM19/PM11
Sulphate#	36.56	57.13	62.39							<0.05	mg/l	TM038W
Total Hardness - dissolved	254	352	270							<1	mg/l	TM 030W
<u>Speciated Phenols by HPLC</u>												
Resorcinol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
Catechol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
Phenol #	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
m/p-cresol	<0.02	<0.02	<0.02							<0.02	mg/l	TM26
o-cresol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
Total cresols #	<0.03	<0.03	<0.03							<0.03	mg/l	TM26
Xylenols #	<0.06	<0.06	<0.06							<0.06	mg/l	TM26
1-naphthol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
2,3,5-trimethyl phenol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
2-isopropylphenol	<0.01	<0.01	<0.01							<0.01	mg/l	TM26
Total Speciated Phenols HF	<0.1	<0.1	<0.1							<0.1	mg/l	TM26
<u>SVOCs (dissolved)</u>												
SVOCs #	see tab	see tab	see tab							<10	µg/l	TM16/PM9
VOCs #	see tab	see tab	see tab							<1-27	µg/l	TM15/PM10
<u>BTEX GC-FID</u>												
MTBE	<5	<5	<5							<5	µg/ l	TM031W
Benzene	<5	<5	<5							<5	µg/ l	TM031W
Toluene	<5	<5	<5							<5	µg/ l	TM031W
Ethyl benzene	<5	<5	<5							<5	µg/ l	TM031W
m/p-Xylene	<5	<5	<5							<5	µg/ l	TM031W
o-Xylene	<5	<5	<5							<5	µg/ l	TM031W

Client Name: WSP
Reference: 12041674/001
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

Please see attached notes for all abbreviations and acronyms

Jones Environmental Laboratory

Client Name: WSP
Reference: 12041674/001
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

VOC Report : LIQUID

J E Sample No.	180-183	184-187	188-190								Please see attached notes for all abbreviations and acronyms		
Sample ID	BH2	BH3	EW										
Depth	-	-	-										
COC No / misc													
Containers	V G	V G	V G										
Sample Date	24/11/09	24/11/09	25/11/09										
Sample Type	Water	Water	Water										
Batch Number	4	4	4										
Date of Receipt	26/11/09	26/11/09	26/11/09								LOD	Units	Method No.
Dichlorodifluoromethane	<2	<2	<2								<2	µg/l	TM15/PM10
Methyl Tertiary Butyl Ether	<2	<2	<2								<2	µg/l	TM15/PM10
Chloromethane #	<3	<3	<3								<3	µg/l	TM15/PM10
Vinyl Chloride	<2	<2	<2								<2	µg/l	TM15/PM10
Bromomethane	<1	<1	<1								<1	µg/l	TM15/PM10
Chloroethane #	<3	<3	<3								<3	µg/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3								<3	µg/l	TM15/PM10
1,1-Dichloroethene #	<6	<6	<6								<6	µg/l	TM15/PM10
Carbon Disulphide #	NA	NA	NA								<3	µg/l	TM15/PM10
Dichloromethane #	<3	<3	<3								<3	µg/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3								<3	µg/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3								<3	µg/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1								<1	µg/l	TM15/PM10
Bromochloromethane #	<2	<2	<2								<2	µg/l	TM15/PM10
Chloroform #	<3	<3	<3								<3	µg/l	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3								<3	µg/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3								<3	µg/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2								<2	µg/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2								<2	µg/l	TM15/PM10
Benzene #	<3	<3	<3								<3	µg/l	TM15/PM10
Trichloroethene	<3	<3	<3								<3	µg/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2								<2	µg/l	TM15/PM10
Dibromomethane #	<3	<3	<3								<3	µg/l	TM15/PM10
Bromodichloromethane #	<3	<3	<3								<3	µg/l	TM15/PM10
cis-1-3-Dichloropropene #	<2	<2	<2								<2	µg/l	TM15/PM10
Toluene #	<3	<3	<3								<3	µg/l	TM15/PM10
trans-1-3-Dichloropropene #	<2	<2	<2								<2	µg/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2								<2	µg/l	TM15/PM10
Tetrachloroethene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2								<2	µg/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2								<2	µg/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2								<2	µg/l	TM15/PM10
Chlorobenzene #	<2	<2	<2								<2	µg/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2								<2	µg/l	TM15/PM10
Ethylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
p/m-Xylene #	<5	<5	<5								<5	µg/l	TM15/PM10
o-Xylene #	<3	<3	<3								<3	µg/l	TM15/PM10
Styrene #	<2	<2	<2								<2	µg/l	TM15/PM10
Bromoform #	<2	<2	<2								<2	µg/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4								<4	µg/l	TM15/PM10
Bromobenzene #	<2	<2	<2								<2	µg/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3								<3	µg/l	TM15/PM10
Propylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3								<3	µg/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3								<3	µg/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2								<2	µg/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3								<3	µg/l	TM15/PM10
Hexachlorobutadiene #	<3	<3	<3								<3	µg/l	TM15/PM10
Naphthalene	<2	<2	<2								<2	µg/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3								<3	µg/l	TM15/PM10

Please include all sections of this report if it is reproduced

Jones Environmental Laboratory

Client Name: WSP
Reference: 12041674/001
Location: Stadium Way, Reading
Contact: Helen Carter
JE Job No.: 09/3825

SVOC Report : LIQUID

J E Sample No.	180-183	184-187	188-190										
Sample ID	BH2	BH3	EW										
Depth	-	-	-										
COC No / misc													
Containers	V G	V G	V G										
Sample Date	24/11/09	24/11/09	25/11/09										
Sample Type	Water	Water	Water										
Batch Number	4	4	4										
Date of Receipt	26/11/09	26/11/09	26/11/09										
											LOD	Units	Method No.
Please see attached notes for all abbreviations and acronyms													
Phenols													
2-Chlorophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2-Methylphenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2-Nitrophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2,4-Dichlorophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2,4-Dimethylphenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2,4,5-Trichlorophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
2,4,6-Trichlorophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Chloro-3-methylphenol	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Methylphenol	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Nitrophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
Pentachlorophenol	<10	<10	<10								<10	µg/ l	TM16/PM9
Phenol	<10	<10	<10								<10	µg/ l	TM16/PM9
PAHs													
2-Chloronaphthalene	<10	<10	<10								<10	µg/ l	TM16/PM9
2-Methylnaphthalene	<10	<10	<10								<10	µg/ l	TM16/PM9
Naphthalene	<10	<10	<10								<10	µg/ l	TM16/PM9
Acenaphthylene	<10	<10	<10								<10	µg/ l	TM16/PM9
Acenaphthene	<10	<10	<10								<10	µg/ l	TM16/PM9
Fluorene	<10	<10	<10								<10	µg/ l	TM16/PM9
Phenanthrene	<10	<10	<10								<10	µg/ l	TM16/PM9
Anthracene	<10	<10	<10								<10	µg/ l	TM16/PM9
Fluoranthene	<10	<10	<10								<10	µg/ l	TM16/PM9
Pyrene	<10	<10	<10								<10	µg/ l	TM16/PM9
Benz(a)anthracene	<10	<10	<10								<10	µg/ l	TM16/PM9
Chrysene	<10	<10	<10								<10	µg/ l	TM16/PM9
Benzo(b)fluoranthene	<10	<10	<10								<10	µg/ l	TM16/PM9
Benzo(a)pyrene	<10	<10	<10								<10	µg/ l	TM16/PM9
Indeno(123cd)pyrene	<10	<10	<10								<10	µg/ l	TM16/PM9
Dibenzo(ah)anthracene	<10	<10	<10								<10	µg/ l	TM16/PM9
Benzo(ghi)perylene	<10	<10	<10								<10	µg/ l	TM16/PM9
Phthalates													
Bis(2-ethylhexyl) phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Butylbenzyl phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Di-n-butyl phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Di-n-Octyl phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Diethyl phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Dimethyl phthalate	<10	<10	<10								<10	µg/ l	TM16/PM9
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
1,2,4-Trichlorobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
1,3-Dichlorobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
1,4-Dichlorobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
2-Nitroaniline	<10	<10	<10								<10	µg/ l	TM16/PM9
2,4-Dinitrotoluene	<10	<10	<10								<10	µg/ l	TM16/PM9
2,6-Dinitrotoluene	<10	<10	<10								<10	µg/ l	TM16/PM9
3-Nitroaniline	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Bromophenylphenylether	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Chloroaniline	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Chlorophenylphenylether	<10	<10	<10								<10	µg/ l	TM16/PM9
4-Nitroaniline	<10	<10	<10								<10	µg/ l	TM16/PM9
Azobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
Bis(2-chloroethoxy)methane	<10	<10	<10								<10	µg/ l	TM16/PM9
Bis(2-chloroethyl)ether	<10	<10	<10								<10	µg/ l	TM16/PM9
Carbazole	<10	<10	<10								<10	µg/ l	TM16/PM9
Dibenzofuran	<10	<10	<10								<10	µg/ l	TM16/PM9
Hexachlorobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9
Hexachlorobutadiene	<10	<10	<10								<10	µg/ l	TM16/PM9
Hexachlorocyclopentadiene	<10	<10	<10								<10	µg/ l	TM16/PM9
Hexachloroethane	<10	<10	<10								<10	µg/ l	TM16/PM9
Isophorone	<10	<10	<10								<10	µg/ l	TM16/PM9
N-nitrosodi-n-propylamine	<10	<10	<10								<10	µg/ l	TM16/PM9
Nitrobenzene	<10	<10	<10								<10	µg/ l	TM16/PM9

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. Your final report will reflect this, with non-MCERTS results on separate pages.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Asbestos screens where requested will be undertaken by a UKAS accredited laboratory.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory. It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to tap water, surface water and groundwater only, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples. All samples are treated as groundwaters and analysis performed on settled samples unless we are instructed otherwise.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any analysis that may be compromised highlighted on your schedule/ report by the use of a symbol.

The use of any of the following symbols indicates that the sample was deviating and the test result may be unreliable:

- \$ sample temperature on receipt considered inappropriate for analysis requested
- ^ samples exceeding recommended holding times
- & samples received in inappropriate containers (e.g. volatile samples not submitted in VOC jars/vials)
- ~ no sampling date given, unable to confirm if samples are with acceptable holding times

ABBREVIATIONS and ACRONYMS USED

- UKAS accredited

M - MCERTS accredited

NAD - No Asbestos Detected

ND - None Detected (usually refers to VOC and/SVOC TICs)

SS - Calibrated against a single substance

* - analysis subcontracted to a Jones Environmental approved laboratory.

W - Results expressed on as received basis

+ Failed AQC results should be considered as indicative only and are not accredited.

++ Result outside calibration range, may be possible to re-run with higher detection limits

COMPARISON OF THE SOIL ANALYTICAL RESULTS WITH SCREENING VALUES – TOP METRE

Sample Location	WS1	WS2	WS3	WS4	WS5	WS6	WS7	WS8	WS9	WS10	WS11	WS12	WS13	WS14	WS15	GAC	Less Than the GAC
Depth (mbgl)	0.50	0.50	0.40	0.80	0.50	0.50	0.30	0.4	0.25	1.0	0.75	0.45	0.70	0.25	0.20	Mg/kg	Yes (✓) / No (✗)
Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG		
Determinands (mg/kg)																	
pH	7.91	~	7.98	8.31	~	~	~	~	9.44	~	8.2	~	~	7.97	~	N/A	N/A
Sulphate	~	~	~	0.093	~	0.163	~	~	0.125	~	~	~	~	0.093	~	N/A	N/A
Soil Organic Matter (%)	~	~	~	0.5	~	1.9	~	1.2	~	4.7	~	~	~	0.5	~	N/A	N/A
Asbestos Screen	ND	~	~		ND	ND	ND	ND	~	~	ND	ND	ND	ND	~	ND	✓
Arsenic	10.4	1.9	15.6	11.4	9.1	10.4	9.3	14.4	18.6	6.3	13.4	11.2	11.6	21.9	12.8	640 ^A	✓
Cadmium	0.2	<0.1	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.6	230 ^B	✓
Chromium	16.8	154.1	16.2	14.9	21.9	20.6	16.8	20.1	23.8	11	20.2	19.2	30.1	18.1	27	35 ^B	✗ (WS2)
Copper	51	36	16	17	30	31	26	25	19	11	30	32	245	19	451	72,000 ^B	✓
Lead	0.2	0.2	0.6	0.4	0.3	61	56	117	22	0.1	49	0.2	<0.1	0.3	1.2	6,013 ^B	✓
Mercury	19.3	98.9	14.4	14	16.1	0.4	0.4	0.2	<0.1	19.1	0.3	19.4	26	21.5	26.4	26 ^A	✗ (WS2)
Nickel	38	21	42	55	453	21.9	16.1	17.3	21	8	17	71	56	50	203	1,800 ^A	✓
Selenium	<1	1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	13,000 ^A	✓
Zinc	66	53	57	99	86	92	70	91	43	26	76	93	86	56	249	660,000 ^B	✓
TPH Aliphatic (>C5-C6)	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	~	3,400(304) ^B	✓
TPH Aliphatic (>C6-C8)	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	~	8,300(144) ^B	✓
TPH Aliphatic (>C8-C10)	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	~	2,100(77) ^B	✓
TPH Aliphatic (>C10-C12)	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	<5	<5	~	~	10,000(34) ^B	✓
TPH Aliphatic (>C12-C16)	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	<5	<5	~	~	61,000(24) ^B	✓
TPH Aliphatic (>C16-C21)	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	10	<5	~	~	160,000 ^B	✓
TPH Aliphatic (>C21-C35)	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	227	<5	~	~		✓
Total TPH Aliphatic (>C6-C35)	<15	~	<15	~	<15	<15	<15	<15	~	<15	<15	~	237	<15	~	N/A	N/A
TPH Aromatic (>C5-C7)	<0.1	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	28,000(1,217) ^B	✓
TPH Aromatic (>C7-C8)	<0.1	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	59,000(869) ^B	✓
TPH Aromatic (>C8-C10)	<0.1	~	<0.1	~	<0.1	<0.1	<0.1	<0.1	~	<0.1	<0.1	~	<0.1	<0.1	~	3,700(613) ^B	✓
TPH Aromatic (>C10-C12)	<5	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	<5	<5	~	17,000(364) ^B	✓
TPH Aromatic (>C12-C16)	<5	~	<5	~	<5	<5	<5	<5	~	<5	<5	~	<5	<5	~	36,000(169) ^B	✓
TPH Aromatic (>C16-C21)	<5	~	22	~	<5	21	8	42	~	<5	<5	~	<5	<5	~	28,000 ^B	✓
TPH Aromatic (>C21-C35)	<5	~	11	~	<5	67	45	75	~	<5	<5	~	97	<5	~	28,000 ^B	✓
Total Aromatics (>C6-C44)	<15	~	33	~	<15	88	53	117	~	<15	<15	~	97	<15	~	N/A	N/A
GRO (C4-C8)	~	<0.1	~	<0.1	~	~	~	~	<0.1	~	~	<0.1	~	~	<0.1	3,400(304)	✓
GRO (C8-C12)	~	<0.1	~	<0.1	~	~	~	~	<0.1	~	~	<0.1	~	~	<0.1	8,300(144)	✓
GRO (C4-12)	~	<0.1	~	<0.1	~	~	~	~	<0.1	~	~	<0.1	~	~	<0.1	2,100(77)	✓
EPH (C8-C40)	~	0.667	~	0.034	~	~	~	~	<0.03	~	~	<0.03	~	~	0.785	N/A	N/A
Total TPH (>C6-C44)	<30	~	33	~	<30	88	53	117	~	<30	<30	~	334	<30	~	N/A	N/A

Sample Location	WS1	WS2	WS3	WS4	WS5	WS6	WS7	WS8	WS9	WS10	WS11	WS12	WS13	WS14	WS15	GAC	Less Than the GAC
Depth (mbgl)	0.50	0.50	0.40	0.80	0.50	0.50	0.30	0.4	0.25	1.0	0.75	0.45	0.70	0.25	0.20	µg/kg	Yes (✓) / No (✖)
Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG		
Determinands (µg/kg)																	
Naphthalene	40	483	283	<10	86	78	<10	88	<10	<10	<10	~	~	<10	377	76,000 ^B	✓
Acenaphthylene	134	169	24	<10	121	<10	<10	<10	<10	<10	<10	~	~	<10	2129	86,000 ^B	✓
Acenaphthene	42	677	230	<10	33	48	<10	333	<10	<10	<10	~	~	<10	77	57,000 ^B	✓
Fluorene	50	582	192	<10	46	52	<10	300	<10	<10	<10	~	~	<10	124	31,000 ^B	✓
Phenanthrene	626	4303	1779	93	792	553	192	4750	34	39	98	~	~	69	2484	22x10+6 ^B	✓
Anthracene	298	1514	475	42	324	273	89	1851	13	12	49	~	~	34	2629	52x10+7 ^B	✓
Fluoranthene	1862	6744	1984	315	2032	1446	348	11447	82	96	175	~	~	253	15330	23x10+6 ^B	✓
Pyrene	1648	5360	1515	310	1723	1426	346	9919	82	77	163	~	~	244	14229	89,000 ^B	✓
Benzo[a]anthracene	760	1920	569	219	879	601	149	4407	86	60	105	~	~	186	7641	140,000 ^B	✓
Chrysene	925	2689	729	180	1101	824	193	5053	73	65	100	~	~	177	7365	140,000 ^B	✓
Benzo[bk]fluoranthene	1540	4807	1054	350	2304	1473	194	10072	75	110	137	~	~	333	14479	140,000 ^B	✓
Benzo[a]pyrene	942	2789	676	195	1407	852	83	6262	39	59	47	~	~	190	10191	14,000 ^B	✓
Indeno[123-cd]pyrene	443	1421	262	103	703	270	<10	2694	<10	26	<10	~	~	93	5240	13,000 ^B	✓
Dibenz[ah]anthracene	108	438	73	27	154	79	<10	556	<10	<10	<10	~	~	<10	1061	13,000 ^B	✓
Benzo[ghi]perylene	487	1443	300	122	698	654	<10	3921	<10	39	<10	~	~	125	5506	650,000 ^B	✓
Chloromethane	<3	<3	<3	<3	<3	8	5	7	<3	<3	<3	~	~	<3	<3	130,000 ^B	✓
Dichloromethane	61	229	63	58	69	<7	<7	<7	<7	36	<7	~	~	45	76	110,000 ^B	✓
Toluene	37	58	16	84	17	4	12	<3	<3	9	<3	~	~	9	10	870,000 ^B	✓
Ethylbenzene	9	22	5	17	<3	4	10	<3	<3	<3	<3	~	~	<3	<3	520,000 ^B	✓
p/m-Xylene [#]	30	79	17	59	11	17	43	<6	<6	7	<6	~	~	8	<6	480,000 ^B	✓
o-Xylene [#]	12	31	7	23	5	<3	6	<3	<3	<3	<3	~	~	4	<3	580,000 ^B	✓
1,2,4-Trimethylbenzene	11	30	10	23	<6	14	12	<6	<6	<6	<6	~	~	<6	<6	230,000 ^B	✓
Carbazole	46	309	252	<10	120	<10	<10	162	<10	<10	<10	~	~	<10	186	N/A	N/A
Dibenzofuran	54	806	254	<10	59	<10	<10	159	<10	<10	<10	~	~	<10	99	N/A	N/A

MG – MADE GROUND, A – DEFRA/EA PUBLISHED SOIL GUIDELINE VALUES FOR COMMERCIAL B – WSP'S GENERIC ASSESSMENT CRITERIA FOR COMMERCIAL LAND USE, , NA – NOT APPLICABLE. ND – NOT DETECTED.

COMPARISON OF THE SOIL ANALYTICAL RESULTS WITH SCREENING VALUES – GREATER THAN 1M

Sample Location	WS2	WS6	WS8	WS12	WS13	WS13	WS14	WS15	WS15	WS15	GAC	Less Than the GAC
Depth (mbgl)	2.75	1.50	1.50	1.40	1.25	1.60	2.20	1.5	2.20	2.75		
Soil Type	NAT	NAT	NAT	MG	MG	NAT	NAT	MG	MG	NAT	Mg/kg	Yes (✓) / No (✗)
Determinands (mg/kg)												
pH	~	7.67	~	~	~	~	~	~	~	~	N/A	N/A
Sulphate	~	0.126	~	~	~	~	~	~	~	~	N/A	N/A
Soil Organic Matter (%)	~	1.7	~	~	~	0.6	~	~	~	0.4	N/A	N/A
Asbestos Screen	~	~	~	~	~	~	~	ND	~	~	ND	✓
Arsenic	10.5	11.3	8.2	~	~	16.9	~	~	~	15.2	640 ^A	✓
Cadmium	0.1	0.1	<0.1	~	~	0.2	~	~	~	0.1	230 ^B	✓
Chromium	14.1	18.2	7.8	~	~	20.7	~	~	~	17.7	35 ^B	✓
Copper	7	23	10	~	~	13	~	~	~	9	72,000 ^B	✓
Lead	<0.1	33	7	~	~	<0.1	~	~	~	0.3	6,013 ^B	✓
Mercury	15.1	0.2	<0.1	~	~	19.4	~	~	~	17.8	26 ^A	✓
Nickel	62	15.8	11.5	~	~	18	~	~	~	7	1,800 ^A	✓
Selenium	<1	<1	<1	~	~	1	~	~	~	1	13,000 ^A	✓
Zinc	22	58	22	~	~	46	~	~	~	29	660,000 ^B	✓
TPH Aliphatic (>C5-C6)	~	~	~	~	<0.1	~	~	<0.1	<0.1	~	3,400(304) ^B	✓
TPH Aliphatic (>C6-C8)	~	~	~	~	0.3	~	~	<0.1	<0.1	~	8,300(144) ^B	✓
TPH Aliphatic (>C8-C10)	~	~	~	~	0.4	~	~	<0.1	<0.1	~	2,100(77) ^B	✓
TPH Aliphatic (>C10-C12)	~	~	~	~	<5	~	~	<5	<5	~	10,000(34) ^B	✓
TPH Aliphatic (>C12-C16)	~	~	~	~	<5	~	~	<5	<5	~	61,000(24) ^B	✓
TPH Aliphatic (>C16-C21)	~	~	~	~	<5	~	~	<5	<5	~	160,000 ^B	✓
TPH Aliphatic (>C21-C35)	~	~	~	~	195	~	~	<5	<5	~		✓
Total TPH Aliphatic (>C6-C35)	~	~	~	~	195	~	~	<15	<15	~	N/A	N/A
TPH Aromatic (>C5-C7)	~	~	~	~	<0.1	~	~	<0.1	<0.1	~	28,000(1,217) ^B	✓
TPH Aromatic (>C7-C8)	~	~	~	~	0.2	~	~	<0.1	<0.1	~	59,000(869) ^B	✓
TPH Aromatic (>C8-C10)	~	~	~	~	0.7	~	~	<0.1	<0.1	~	3,700(613) ^B	✓
TPH Aromatic (>C10-C12)	~	~	~	~	<5	~	~	<5	<5	~	17,000(364) ^B	✓
TPH Aromatic (>C12-C16)	~	~	~	~	<5	~	~	<5	<5	~	36,000(169) ^B	✓
TPH Aromatic (>C16-C21)	~	~	~	~	<5	~	~	<5	<5	~	28,000 ^B	✓
TPH Aromatic (>C21-C35)	~	~	~	~	7	~	~	<5	<5	~	28,000 ^B	✓
Total Aromatics (>C6-C44)	~	~	~	~	8	~	~	<15	<15	~	N/A	N/A
GRO (C4-C8)	<100	<100	<100	<100	~	<100	<100	~	~	<100	3,400(304)	✓
GRO (C8-C12)	<100	<100	<100	<100	~	<100	<100	~	~	<100	8,300(144)	✓
GRO (C4-12)	<100	<100	<100	<100	~	<100	<100	~	~	<100	2,100(77)	✓
EPH (C8-C40)	<30	<30	<30	<30	~	<30	119	~	~	<30	N/A	N/A
Total TPH (>C6-C44)	~	~	~	~	203	~	~	<30	<30	~	N/A	N/A



Sample Location	WS2	WS6	WS8	WS12	WS13	WS13	WS14	WS15	WS15	WS15	GAC	Less Than the GAC
Depth (mbgl)	2.75	1.50	1.50	1.40	1.25	1.60	2.20	1.5	2.20	2.75		
Soil Type	NAT	NAT	NAT	MG	MG	NAT	NAT	MG	MG	NAT	µg/kg	Yes (✓) / No (✗)
Determinands (µg/kg)												
Naphthalene	<10	<10	<10	~	77	~	~	~	<10	<10	76,000 ^B	✓
Acenaphthylene	<10	<10	<10	~	<10	~	~	~	<10	<10	86,000 ^B	✓
Acenaphthene	<10	<10	<10	~	<10	~	~	~	<10	<10	57,000 ^B	✓
Fluorene	<10	<10	<10	~	<10	~	~	~	<10	<10	31,000 ^B	✓
Phenanthrene	<10	<10	<10	~	180	~	~	~	22	<10	22x10+6 ^B	✓
Anthracene	<10	<10	<10	~	82	~	~	~	14	<10	52x10+7 ^B	✓
Fluoranthene	<10	<10	<10	~	594	~	~	~	59	<10	23x10+6 ^B	✓
Pyrene	<10	<10	<10	~	712	~	~	~	59	<10	89,000 ^B	✓
Benzo[a]anthracene	<10	<10	<10	~	275	~	~	~	59	<10	140,000 ^B	✓
Chrysene	<10	<10	<10	~	319	~	~	~	43	<10	140,000 ^B	✓
Benzo[bk]fluoranthene	<10	<10	<10	~	558	~	~	~	67	<10	140,000 ^B	✓
Benzo[a]pyrene	<10	<10	<10	~	418	~	~	~	32	<10	14,000 ^B	✓
Indeno[123-cd]pyrene	<10	<10	<10	~	147	~	~	~	18	<10	13,000 ^B	✓
Dibenz[ah]anthracene	<10	<10	<10	~	45	~	~	~	<10	<10	13,000 ^B	✓
Benzo[ghi]perylene	<10	<10	<10	~	268	~	~	~	17	<10	650,000 ^B	✓
Chloromethane	<3	<3	<3	~	30	~	~	~	<3	~	130,000 ^B	✓
Dichloromethane	38	<7	<7	~	152	~	~	~	72	~	110,000 ^B	✓
Toluene	~	~	~	~	366	~	~	<5	<5	~	870,000 ^B	✓
Ethylbenzene	~	~	~	~	132	~	~	<5	<5	~	520,000 ^B	✓
p/m-Xylene [#]	~	~	~	~	522	~	~	<5	<5	~	480,000 ^B	✓
o-Xylene [#]	~	~	~	~	258	~	~	<5	<5	~	580,000 ^B	✓
1,1,1 Trichloroethane	<3	<3	<3	~	314	~	~	~	<3	~	700,000 ^B	✓
Trichloroethene	<3	<3	<3	~	102	~	~	~	<3	~	700,000 ^B	✓
Tetrachloroethane	<3	<3	<3	~	149	~	~	~	7	~	130,000 ^B	✓
1,3,5 Trimethylbenzene	<3	<3	<3	~	47	~	~	~	<3	<3	230,000 ^B	✓
1,2,4-Trimethylbenzene	<6	<6	<6	~	124	~	~	~	<6	~	230,000 ^B	✓

MG – MADE GROUND, NAT- Alluvial deposits / Taplow Terrace Gravels, A – DEFRA/EA PUBLISHED SOIL GUIDELINE VALUES FOR COMMERCIAL B – WSP'S GENERIC ASSESSMENT CRITERIA FOR COMMERCIAL LAND USE, , NA – NOT APPLICABLE. ND – NOT DETECTED.

COMPARISON OF THE GROUNDWATER ANALYTICAL RESULTS WITH SCREENING VALUES

Determinands	Concentration Range (µg/l)	No. of Samples Above LOD*	Screening Value (µg/l)	Less Than the GAC Yes (✓) / No (✗)	Determinands	Concentration Range (µg/l)	No. of Samples Above LOD*	Screening Value (µg/l)	Less Than the GAC Yes (✓) / No (✗)
pH	7.7 – 8.3	3 of 3	N/A	N/A	TPH Aliphatic (>C6-C8)	<5	0 of 3	15000 ^C	✓
Hardness (mg/l)	254 – 352	3 of 3	N/A	N/A	TPH Aliphatic (>C6-C8)	<5	0 of 3	300 ^C	✓
Arsenic	2.7 – 4.6	3 of 3	10 ^A	✓	TPH Aliphatic (>C8-C10)	<5	0 of 3		✓
Cadmium	<0.5	0 of 3	5 ^A	✓	TPH Aliphatic (>C10-C12)	<10	0 of 3		✓
Chromium	<1.5	0 of 3	50 ^A	✓	TPH Aliphatic (>C12-C16)	<10	0 of 3		✓
Copper	<7	0 of 3	2000 ^A	✓	TPH Aliphatic (>C16-C21)	<10	0 of 3	INSOLUBLE	✓
Lead	7 – 10	3 of 3	25 ^A	✓	TPH Aliphatic (>C21-C35)	<10	0 of 3	INSOLUBLE	✓
Mercury	<1	0 of 3	1 ^A	✓	Total TPH Aliphatics	<10	0 of 3	INSOLUBLE	✓
Nickel	3 – 5	3 of 3	20 ^A	✓	TPH Aromatic (>C5-C7)	<5	0 of 3	10 ^C	✓
Selenium	<3	0 of 3	10 ^A	✓	TPH Aromatic (>C7-C8)	<5	0 of 3		✓
Zinc	3 – 5	3 of 3	75 ^B	✓	TPH Aromatic (>C8-C10)	<5	0 of 3	94 ^C	✓
Benzene	<5	0 of 3	30 ^B	✓	TPH Aromatic (>C10-C12)	<10	0 of 3		✓
Toluene	<5	0 of 3	50 ^B	✓	TPH Aromatic (>C12-C16)	<10	0 of 3		✓
Ethylbenzene	<5	0 of 3	300 ^C	✓	TPH Aromatic (>C16-C21)	<10	0 of 3	90 ^C	✓
o-Xylene	<5	0 of 3	30 ^B	✓	TPH Aromatic (>C21-C35)	<10	0 of 3		✓
m+p-Xylene	<5	0 of 3		✓	Total TPH Aromatic	<10	0 of 3		✓
MTBE	<5	0 of 3	15 ^C	✓	Total TPH	<10	0 of 3		✓

A – UK DRINKING WATER STANDARDS, B – ENVIRONMENTAL QUALITY STANDARDS, C – WORLD HEALTH ORGANISATION, D – PRIVATE WATER SUPPLY
 LOD – LIMIT OF DETECTION.



Appendix E Limitations and Exceptions



Notes on Limitations

For

Geo-Environmental and Geotechnical Consultancy Services

General

WSP Environmental Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from WSP Environmental Limited; a charge may be levied against such approval.

WSP Environmental Limited accepts no responsibility or liability for:

- a) the consequences of this document being used for any purpose or project other than for which it was commissioned, and
- b) this document to any third party with whom an agreement has not been executed.

Phase I Environmental Audits

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP Environmental Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and groundwater.

The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to the areas unoccupied by the building(s) on the site and by buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues may need to be resolved.

For these reasons if costs have been included in relation to site remediation these must be considered as tentative only and must, in any event, be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

The risk assessment and opinions provided, inter alia, take in to consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Geo-environmental Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environmental risks together with engineering and development implications.

If costs have been included in relation to site remediation these must be confirmed by a qualified quantity surveyor.



The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

The risk assessment and opinions provided, inter alia, take in to consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.