



VIRTUS HAYES LIMITED

---

# SITE CONDITION REPORT

Virtus Hayes (LON2)





VIRTUS HAYES LIMITED

---

## SITE CONDITION REPORT

Virtus Hayes (LON2)

TYPE OF DOCUMENT (VERSION) PUBLIC

PROJECT NO. 70092911-EP2

OUR REF. NO. SCR/001

DATE: JUNE 2022

WSP

7 Lochside View  
Edinburgh Park  
Edinburgh, Midlothian  
EH12 9DH

Phone: +44 131 344 2300

Fax: +44 131 344 2301

WSP.com

---



# QUALITY CONTROL

---

Issue/revision	First issue	Revision 1	Revision 2
Remarks	First Draft	Issue	
Date	28/06/2022	30/06/2022	
Prepared by	Jackie Smith	Jackie Smith	
Signature			
Checked by	Derek Schoehuys	Derek Schoehuys	
Signature			
Authorised by	Derek Schoehuys	Derek Schoehuys	
Signature			
Project number	70092911-EP2	70092911-EP2	
Report number	SCR/001	SCR/001	
File reference	\\uk.wspgroup.com\Central Data\Projects\70092xxx\70092911 - Virtus LON4, 9, 2 applications\03 WIP\LON2 PERMIT APPLICATION\Site Condition Report	\\uk.wspgroup.com\Central Data\Projects\70092xxx\70092911 - Virtus LON4, 9, 2 applications\03 WIP\LON2 PERMIT APPLICATION\Site Condition Report	

# CONTENTS

---

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	AUTHORISATION	1
1.2	BACKGROUND INFORMATION	1
1.3	OBJECTIVES OF THE SITE CONDITION REPORT (SCR)	2
1.4	SCOPE OF WORK	2
<b>2</b>	<b>SITE DETAILS</b>	<b>3</b>
2.1	SITE DETAILS	3
	INSTALLATION ADDRESS	3
	SITE LOCALITY	3
	DESCRIPTION OF THE SURROUNDING AREA	4
2.2	TOPOGRAPHY	4
2.3	INSTALLATION LAYOUT	4
<b>3</b>	<b>CONDITION OF THE LAND AT PERMIT ISSUE</b>	<b>6</b>
3.1	ENVIRONMENTAL SETTING	7
	GEOLOGY	7
	HYDROGEOLOGY	7
	HYDROLOGY	8
	FLOOD RISK	10
	NATURE AND HERITAGE CONSERVATION	10
3.2	POLLUTION HISTORY	13
	HISTORICAL LAND USE AND ASSOCIATED CONTAMINANTS	13
	Historical Ordnance Survey Maps and Aerial Photographs, Landmark Envirocheck, 2022	13
	Geotechnical and Geo-Environmental Report, RSK Group Plc, 2011 (Project No. 251347-01 (00))	15



VISUAL/OLFACTORY EVIDENCE OF EXISTING CONTAMINATION	16
EVIDENCE OF DAMAGE TO POLLUTION PREVENTION MEASURES	16
ENVIRONMENTAL CONSENTS, LICENCES, AUTHORISATIONS, PERMITS AND DESIGNATIONS	16
Pollution Incidents which may have Affected the Land	16
Environmental Permitting Regulations (EPR) Authorisations	20
Discharge Consents	20
Operational and Non-operational Landfill Sites	21
Licensed Waste Management Facilities	22
British Geological Survey Recorded Mineral Sites	22
Radioactive Substances	24
<b>3.3 EVIDENCE OF HISTORIC CONTAMINATION</b>	<b>24</b>
<b>4 PERMITTED ACTIVITIES</b>	<b>25</b>
<b>4.1 PERMITTED ACTIVITIES</b>	<b>25</b>
PROCESS DESCRIPTION	25
<b>4.2 NON-PERMITTED ACTIVITIES</b>	<b>25</b>
<b>5 RISKS TO LAND AND GROUNDWATER</b>	<b>26</b>
<b>5.1 STORAGE TANKS AND ASSOCIATED PIPEWORK</b>	<b>26</b>
<b>5.2 CONCRETE HARDSTANDING AND BUNDS</b>	<b>27</b>
<b>5.3 NATURE OF THE STORAGE AND HANDLING OF MATERIALS</b>	<b>27</b>
<b>5.4 SURFACE WATER AND FOUL DRAINAGE</b>	<b>27</b>
<b>5.5 POLLUTING SUBSTANCES AND RELEVANT ACTIVITIES</b>	<b>27</b>
<b>6 OPERATIONAL PHASE SITE CONDITION REPORT</b>	<b>29</b>

---

## **TABLES**

Table 1-1 – LON2 Standby Generators and Fuel Oil Storage Tanks	1
Table 3-1 – Public Domain Information	6
Table 3-2 – General Succession of Strata Encountered	7



Table 3-3 – Licensed Groundwater Abstractions within 2 km of the Site (Landmark Envirocheck, 2022)	8
Table 3-4 – Surface Water Features within 1 km of the Site (Landmark Envirocheck, 2022)	9
Table 3-5 – Licensed Surface Water Abstraction within 2 km of the Site (Landmark Envirocheck, 2022)	9
Table 3-6 – Nature and Heritage Conservation Sites (Environment Agency, 2022)	10
Table 3-7 – Site History	14
Table 3-8 – Surrounding Area History	14
Table 3-9 – Pollution incidents to Controlled Waters within 1 km of the Site	16
Table 3-10 – Substantiated Pollution Incident Register	19
Table 3-11 – EPR/ IPPC Authorisations	20
Table 3-12 – Discharge Consents	21
Table 3-13 – Historical Landfill Sites	21
Table 3-14 – Licensed Waste Management Facilities within 1 km of the Site	22
Table 3-15 – British Geological Survey Active Mineral Site	22
Table 3-16 – British Geological Survey Ceased Opencast Mineral Sites	23
Table 5-1 – Above Ground Fuel Oil Storage Tanks	26
Table 5-2 – Underground Infrastructure	26
Table 5-3 – Potentially Polluting Substances	27
Table 6-1 – 4.0 Changes to the Activity	29
Table 6-2 – 5.0 Measures taken to protect the land	29
Table 6-3 – 6.0 Pollution incidents that may have had an impact on land and their remediation	29
Table 6-4 – 7.0 Soil Gas and Water Quality Monitoring (where undertaken)	29

---

## **FIGURES**

Figure 2-1 - Site Locality	3
Figure 2-2 - Site Boundary	4
Figure 3-1 - Surface Water Features	9
Figure 3-2 - Flood Zones (Environment Agency, 2022)	10



Figure 3-3 - Nature and Heritage Conservation Sites (magic.defra.gov.uk, 2022)	12
Figure 3-4 - Local Wildlife Sites (Environment Agency, 2022)	12
Figure 3-5 – Sites of Special Scientific Interest and Nitrate Vulnerable Zone (magic.defra.gov.uk, 2022)	13

---

## ***APPENDICES***

### APPENDIX A

#### INSTALLATION LAYOUT

### APPENDIX B

#### CHEMICAL ANALYTICAL RESULTS

##### APPENDIX B.1

#### SOIL ANALYTICAL RESULTS

##### APPENDIX B.2

#### GROUNDWATER ANALYTICAL RESULTS

# 1 INTRODUCTION

## 1.1 AUTHORISATION

On the instruction of VIRTUS HAYES LIMITED (hereafter referred to as “Virtus”), a Site Condition Report (SCR) has been compiled for the London 2 (LON2) Data Centre located in Hayes, West London (hereafter referred to as the “Site”).

As part of the Environmental Permit application process, this SCR has been prepared to provide information on the previous and current condition of the land and groundwater at LON2 Data Centre. This will be a ‘live’ document and will be updated during the lifetime of the installation and used to inform the surrender SCR at the time of installation closure.

This SCR has been developed in accordance with the Environment Agency Guidance Note H5 (Site Condition Report – Guidance and Templates), Version 3.0, April 2013.

## 1.2 BACKGROUND INFORMATION

The LON2 Data Centre will be connected to the local electricity transmission network via multiple grid connections. The nature of the Data Centre and the requirement to always have an available energy supply will result in the installation of ultra-low sulphur diesel-fired standby generators at the Site. The full complement designed number of standby generator engines and fuel oil storage tanks is included in Table 1-1.

**Table 1-1 – LON2 Standby Generators and Fuel Oil Storage Tanks**

Generator Make/Model	Quantity Generator Sets		Maximum Thermal Input (Input total MW thermal)	Fuel Oil Storage Tanks		
	Installed	Proposed		Fuel Type	Bulk Fuel Belly Tank Storage (maximum capacity in litres)	Day Tank Storage (maximum capacity in litres)
Mitsubishi S16R2-PTAW	8	-	45.712	Ultra-low sulphur diesel	173,328	9,600
MTU	-	1	5.19		21,666	1,200
<b>TOTAL</b>			<b>51.00</b>			<b>205,794</b>

The Site will be operated independently but managed under a common management system and management structure as other Virtus Data Centres across North London.

The generators will provide power to the Site in the event of an emergency situation such as a failure of the local electricity transmission network, or an internal component failure requiring disconnection from the grid. During such events there is a potential for a delay between fault detection and initial operation of these back-up generators; hence the initial uninterruptible power



supply is provided by on-site battery arrays in order to cover this 'time gap' and the consequent loss or reduction in the power supply to the data servers.

The total rated thermal input (under standby power operating conditions) of all the generators across the LON2 Data Centre will be 51.00 MWth and, as such, will be required to be operated as a Part A1 combustion activity installation under an Environmental Permit as per the Environmental Permitting (England and Wales) Regulations 2016, as amended.

### **1.3 OBJECTIVES OF THE SITE CONDITION REPORT (SCR)**

The SCR comprises a desk-based research of private and public domain information along with a review of current site operations. The objectives of this SCR include:

- Provide information on current and proposed site activities and site condition;
- Establish the environmental setting and land pollution history for the site;
- Identify activities that are conducted at the installation which may cause pollution of the land and / or groundwater;
- Identify and assess the preventative measures that are in place and will be put in place to protect the land and / or groundwater;
- Assess whether there is a risk to the land and / or groundwater beneath the site and potential for impact from existing and proposed site activities; and,
- Be sufficient to form the basis of any required further work to establish baseline conditions.

### **1.4 SCOPE OF WORK**

The SCR considered the following elements:

- A desk-study including a review of existing reports, Landmark Envirocheck report, site history, local geology, hydrogeology and hydrology as well as historical Ordnance Survey maps.

## 2 SITE DETAILS

### 2.1 SITE DETAILS

#### INSTALLATION ADDRESS

The installation address is:

LON2 Data Centre

Western International Park

Hayes Road

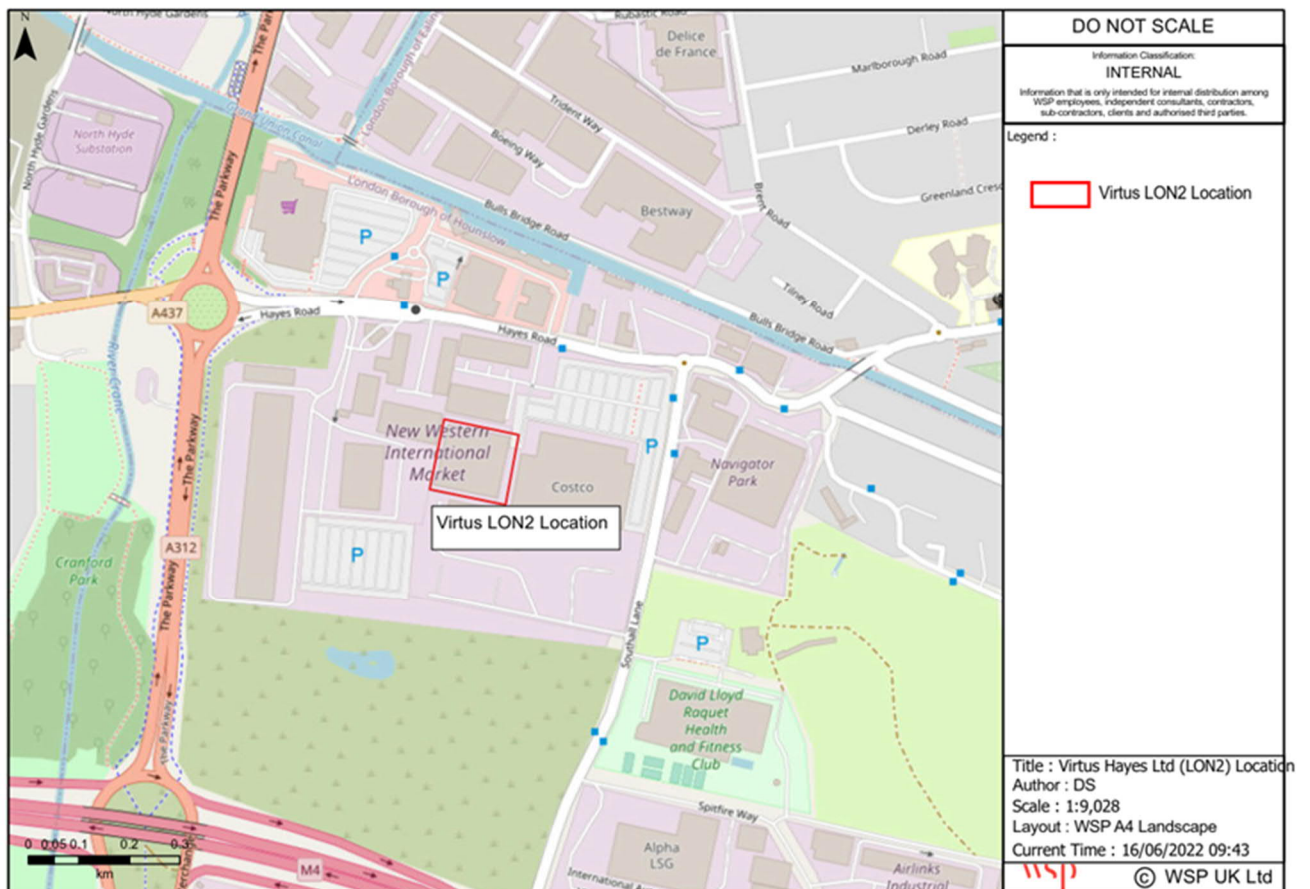
Southall

UB2 5XX

The OS National Grid Reference of the approximate centre of the Site is TQ 10860 78698.

#### SITE LOCALITY

LON2 is located in Hayes, west London and is part of the London Borough of Hillingdon. The Site is located approximately 4.4 km north-east of Heathrow Airport. The Site is accessed via Hayes Road, which then joins 'The Parkway' (A312 dual carriageway in Hayes) (Figure 2-1 and Figure 2-2).



**Figure 2-1 - Site Locality**



**Figure 2-2 - Site Boundary**

## DESCRIPTION OF THE SURROUNDING AREA

Industrial and commercial receptors surround the Site with a variety of business operations in the area. Residential receptors are located beyond the industrial and commercial receptors with typical residential amenities including schools and other educational facilities, supermarkets / grocers, sports and community centres, retail facilities and some restaurants. The nearest residential receptor north-east of the Site resides in the village of Southall Green approximately 290 m from the Site.

## 2.2 TOPOGRAPHY

The Site is generally level. There are two generator rooms which have a slope / slight fall towards the floor gullies.

## 2.3 INSTALLATION LAYOUT

LON2 consists of a single installation comprising a stationary technical unit (STU) made up of the generator engines and fuel oil storage tanks for emergency use only.



LON2 has eight generators divided across 2 generator rooms, each room has six engine spaces, currently there are four engines in the northern room (Generator Room 1), and four in the southern room (Generator Room 2). The additional engine will be installed in GR1. The layout is provided in Appendix A.

### 3 CONDITION OF THE LAND AT PERMIT ISSUE

Information was obtained from both private and public sources including previous geo-environmental assessments, and a Landmark Envirocheck Report, dated 24 May 2022. The data obtained from various sources is referenced in Table 3-1 below.

**Table 3-1 – Public Domain Information**

Document/ Resource Title	Information Obtained
Historical Ordnance Survey Plans (where these were available in previous reports)	Information relating to: <ul style="list-style-type: none"> <li>○ Historical land use of site</li> <li>○ Historical land use of surrounding area</li> </ul>
Landmark Envirocheck Report, 24 May 2022	Environmental data relating to: <ul style="list-style-type: none"> <li>○ Operational and non-operational landfills</li> <li>○ Abstraction licenses (groundwater and surface water)</li> <li>○ Chemical releases</li> <li>○ Discharge consents</li> <li>○ EPR Authorisations</li> <li>○ Pollution Incidents</li> <li>○ Operational and non-operational scrap yards and waste transfer / treatment sites</li> <li>○ Current industrial land uses</li> <li>○ Geology and hydrogeology</li> <li>○ Statutory records and authorisations</li> <li>○ Borehole and trade directory entries</li> <li>○ Flood risk</li> <li>○ Protected sites, habitats and species</li> </ul>
British Geological Survey Website <a href="http://www.bgs.ac.uk/mineralsuk/planning/resource.html#MRM">http://www.bgs.ac.uk/mineralsuk/planning/resource.html#MRM</a>	Mineral extraction data
Geology of Britain Viewer	Geology
Environment Agency Website (What's in Your Back Yard?) <a href="http://apps.environment-agency.gov.uk/wiyby/">http://apps.environment-agency.gov.uk/wiyby/</a>	Environmental data relating to: <ul style="list-style-type: none"> <li>○ Flood risk</li> <li>○ River quality surveys</li> </ul>
Natural England MAGIC Website <a href="http://www.magic.gov.uk/">http://www.magic.gov.uk/</a>	Environmental data relating to: <ul style="list-style-type: none"> <li>○ Protected sites, habitats and species</li> <li>○ Flood risk</li> </ul>

### 3.1 ENVIRONMENTAL SETTING

#### GEOLOGY

The Geology of Britain Viewer (displaying BGS data) indicates that the Site is underlain by superficial deposits of sand and gravel (Lynch Hill Gravel Member). The underlying solid bedrock geology comprises the London Clay Formation – clay and silt.

Previous investigations undertaken identified that the Site was generally underlain by made ground overlying Brick Earth over the Lynch Hill Gravel Member which is underlain by the London Clay Formation. The Brick Earth was noted to be absent in some areas where significant thicknesses of Made Ground were encountered (RSK Group Plc, 2011).

The ground conditions encountered by RSK Group Plc, 2011 during their ground investigation is summarised in Table 3-2.

**Table 3-2 – General Succession of Strata Encountered**

Strata	Brief Description	Depth to Top of Stratum (m.bgl)	Depth to Base of Stratum (m.bgl)	Thickness (m)
Made Ground	Gravelly sand with the gravel consisting of concrete, brick, metal, flint, wood and bituminous hardstanding	0.00	0.40 – 3.50	0.40 – 3.50
Lynch Hill Gravel Member	Gravelly sand, sand and gravel or clayey sandy gravel. The gravel comprised flints	0.50 – 1.90	3.80 – 5.90	1.40 – 4.80
London Clay Formation	Clay with occasional silt channels and rare selenite crystals	1.40 – 4.80	Proven to 10.00	Proven to 4.10 – 6.20

#### HYDROGEOLOGY

Groundwater vulnerability data provided by the Environment Agency within the Landmark Envirocheck Report dated 24 May 2022 indicates that the Superficial Lynch Hill Gravel Member is classified as a High Vulnerability, Principal Aquifer (unconfined shallow aquifer). The London Clay Formation is classified as Unproductive Strata (aquitard).

The anticipated depth to the water table in the Lynch Hill Gravel Formation is in the order of 3 m below ground level. Shallow groundwater in the site area is anticipated to flow in a westerly direction, i.e., towards the River Crane (RSK Group Plc, 2011).



There is 1 groundwater abstraction located on Site for evaporative cooling (National Grid Reference: 510876; 178731). Five licensed groundwater abstractions are located within 2 km of the Site (Table 3-3). The Landmark Envirocheck Report dated 24 May 2022 indicates that the Site does not lie within a currently designated groundwater Source Protection Zone.

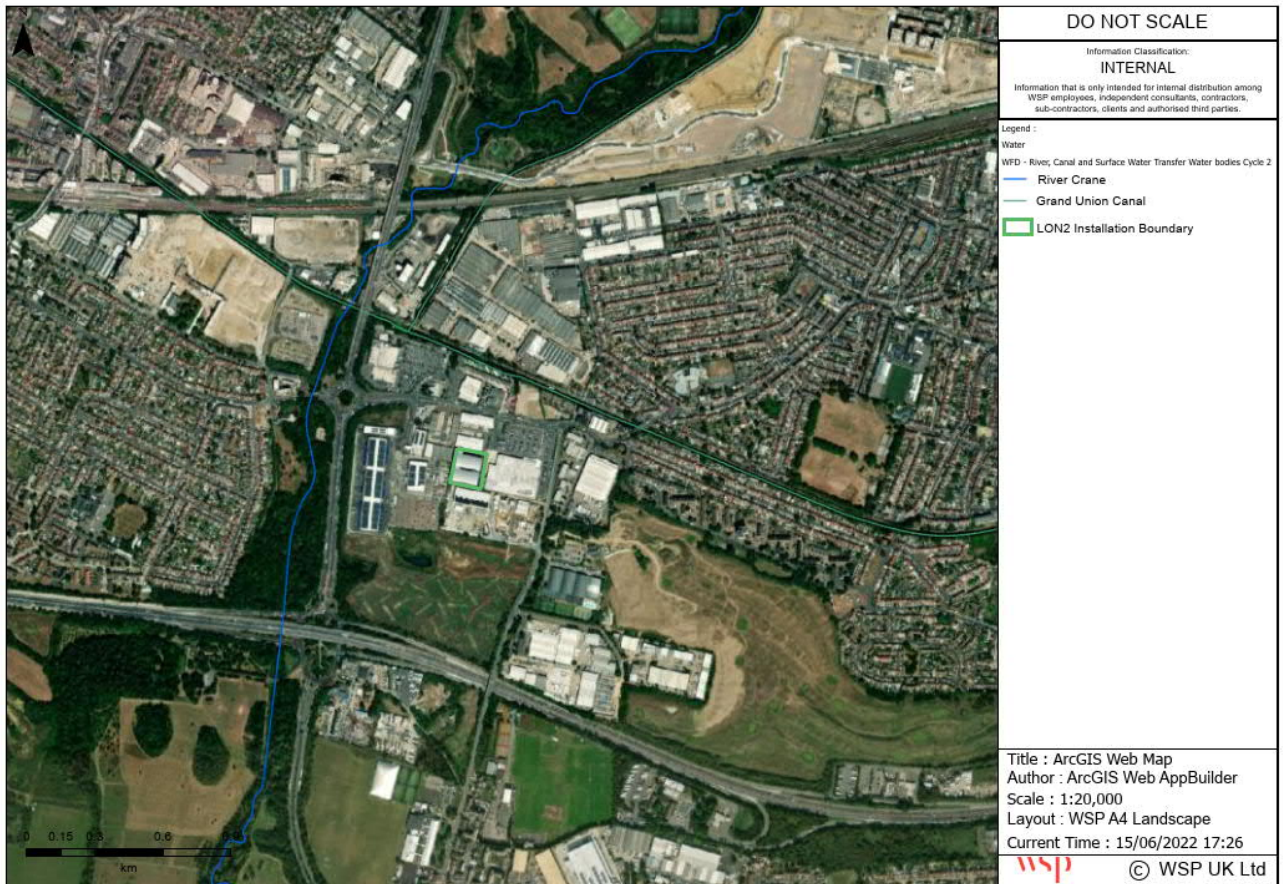
**Table 3-3 – Licensed Groundwater Abstractions within 2 km of the Site (Landmark Envirocheck, 2022)**

Licensee	Details	Approximate Distance from Site (m)	Direction from Site
Usc Europe UK Ltd	Other Industrial/ Commercial/Public Services: Non-Evaporative Cooling	669	North
Chancerygate Group Limited	Other Industrial/ Commercial/Public Services: Non-Evaporative Cooling	707	North-East
Nestle UK Limited	Other Industrial/ Commercial/Public Services: Evaporative Cooling	778	North-West
Harleyford Aggregates Ltd	Mineral Products: Mineral Washing	1552	South-West
Thorn Emi Electronics Ltd	Manufacture (Boiler)	1694	North-West

## HYDROLOGY

The Yeading Brook becomes the River Crane near the Grand Union Canal in Hayes. The River Crane runs south through Cranford Park, past the Heathrow Airport towards Whitton and Twickenham. The river then travels through St Margarets and joins the Thames at Isleworth. The River Crane is located approximately 430 m west of the Site (Figure 3-1).

The Grand Union Canal is located approximately 300 m north of the Site (Figure 3-1).



### Figure 3-1 - Surface Water Features

The Landmark Envirocheck Report dated 24 May 2022 indicates that there is one surface water feature within 1 km of the Site (Table 3-4).

**Table 3-4 – Surface Water Features within 1 km of the Site (Landmark Envirocheck, 2022)**

Surface Water Feature	Approximate Distance from Site (m)	Direction from Site	National Grid Reference
Un-named feature	185	North-East	510980; 178905

The Landmark Envirocheck Report indicates that there is one surface water abstraction within 2 km of the Site (Table 3-5).

**Table 3-5 – Licensed Surface Water Abstraction within 2 km of the Site (Landmark Envirocheck, 2022)**

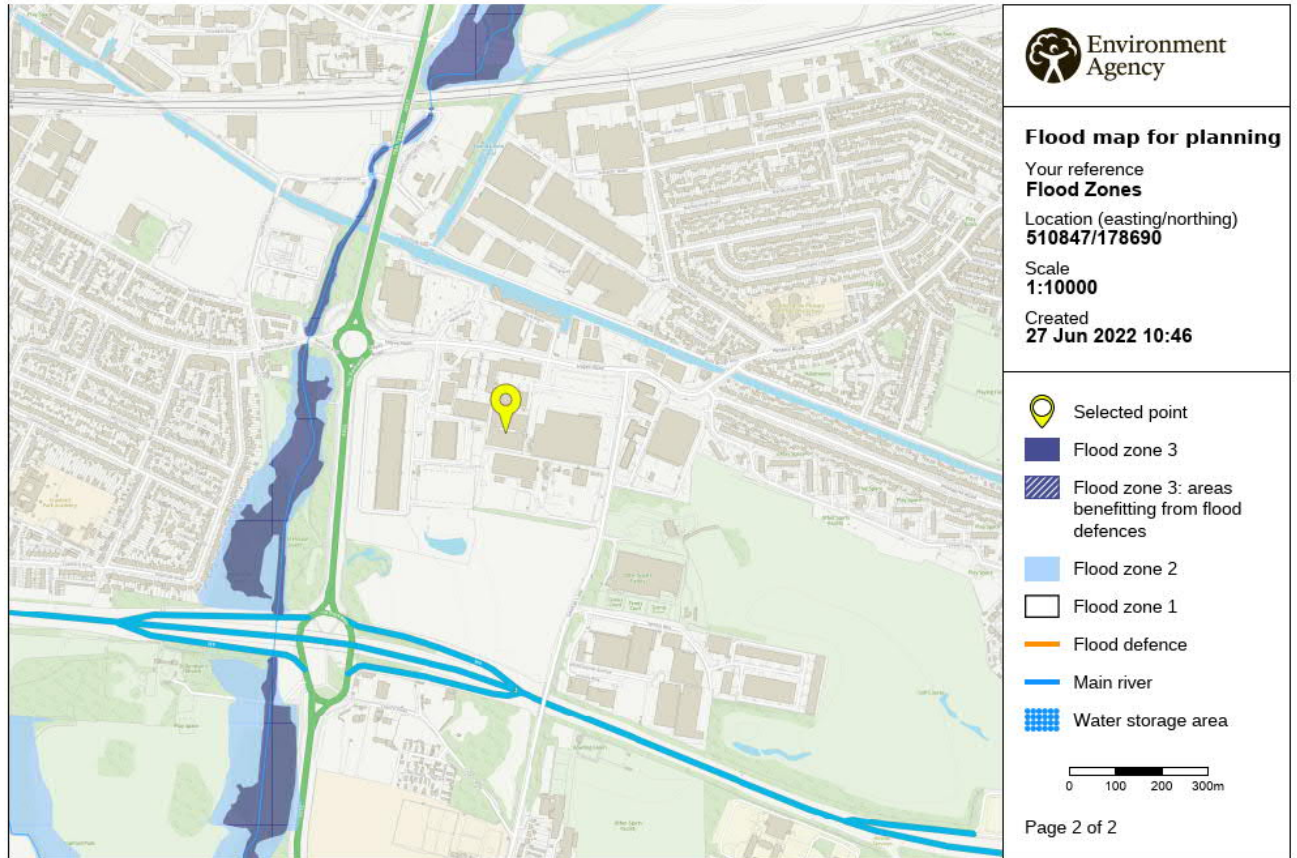
Licensee	Details	Approximate Distance from Site (m)	Direction from Site
Canal and River Trust	Other Industrial/Commercial/Public	1937	North-West



	Services: Non-Evaporative Cooling		
--	-----------------------------------	--	--

## FLOOD RISK

The Environment Agency’s indicative Flood Zones map of the Site and nearby areas depicts that the Site is located within Flood Zone 1, an area with a low probability of flooding (Figure 3-2).



**Figure 3-2 - Flood Zones (Environment Agency, 2022)**

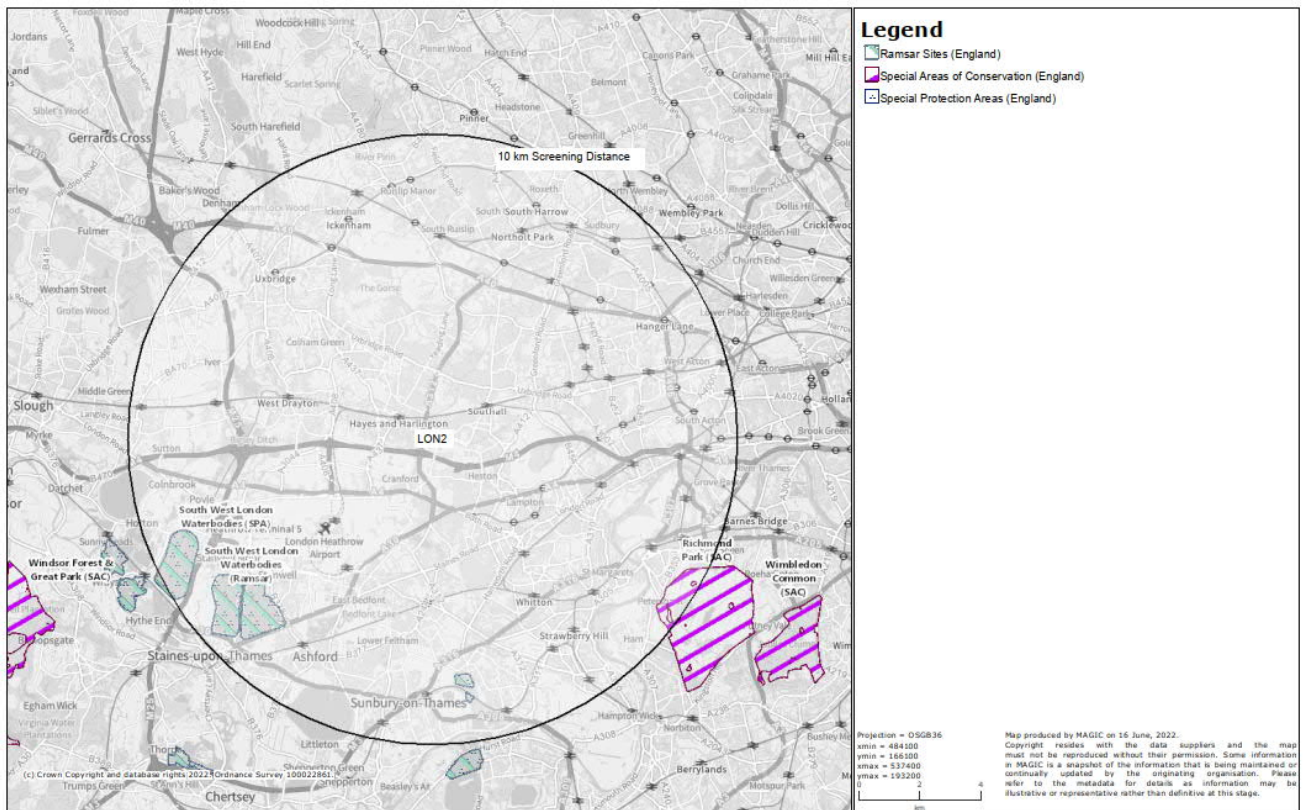
## NATURE AND HERITAGE CONSERVATION

A nature and heritage conservation screening report dated 10/06/2022 was provided by the Environment Agency. Table 3-6 outlines the nature and heritage conservation sites identified within a specified screening distance from the Site. These are presented in Figure 3-3 and Figure 3-4 respectively.

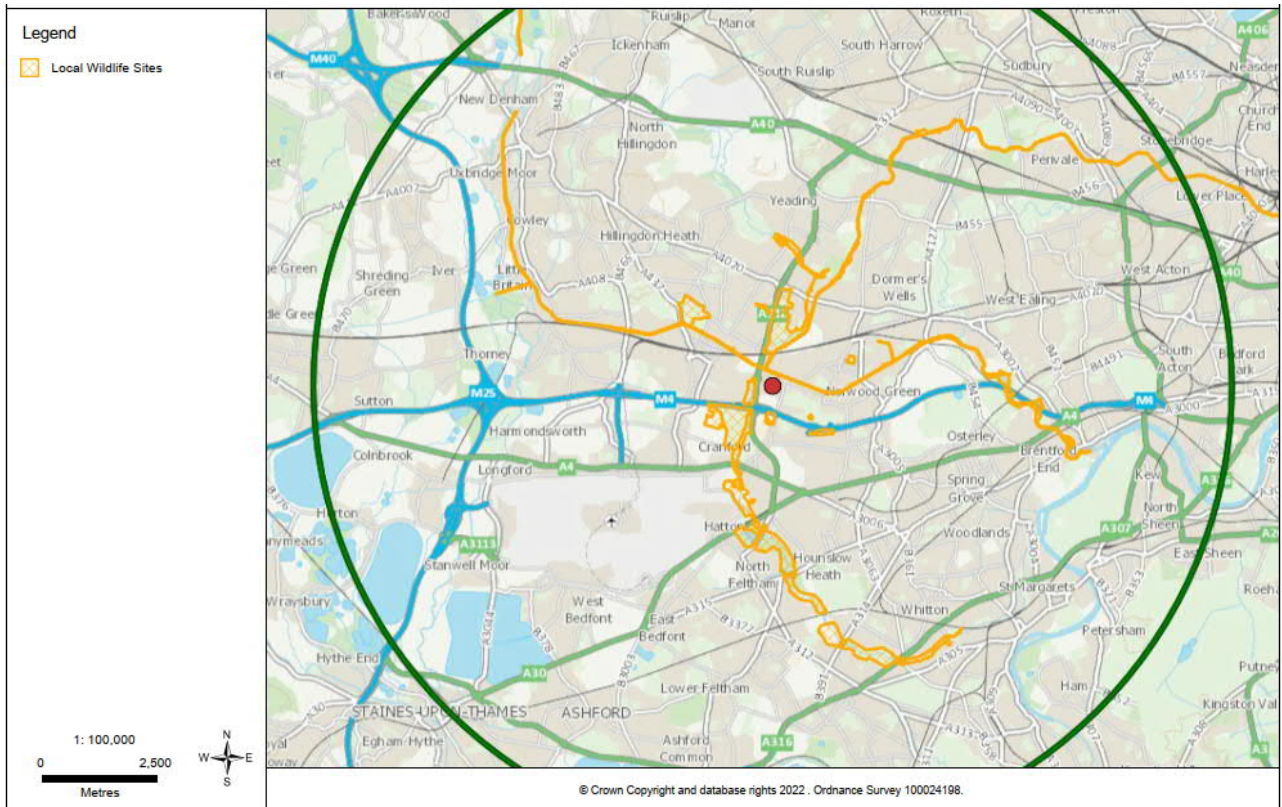
**Table 3-6 – Nature and Heritage Conservation Sites (Environment Agency, 2022)**

Designations	Screening Distance (km)	Nature and Heritage Conservation Sites	Figure Reference
--------------	-------------------------	--	------------------

Special Areas of Conservation	10	Richmond Park	Figure 3-3
Special Protection Area	10	South West London Waterbodies	
Ramsar	10	South West London Waterbodies	
Local Wildlife Sites	2	Airlinks Ponds	Figure 3-4
		Crane Corridor	
		Cranford Countryside Park and Open Space	
		Cranford Lane Gravel Workings	
		Hartlands Wood and Lower Park Farm	
		Havelock Cemetery	
		Lake Farm Country Park	
		London's Canals	
		Thornclyffe Rough	
Yeading Brook, Minet Country Park and Hitherbroom Park			



**Figure 3-3 - Nature and Heritage Conservation Sites (magic.defra.gov.uk, 2022)**



**Figure 3-4 - Local Wildlife Sites (Environment Agency, 2022)**

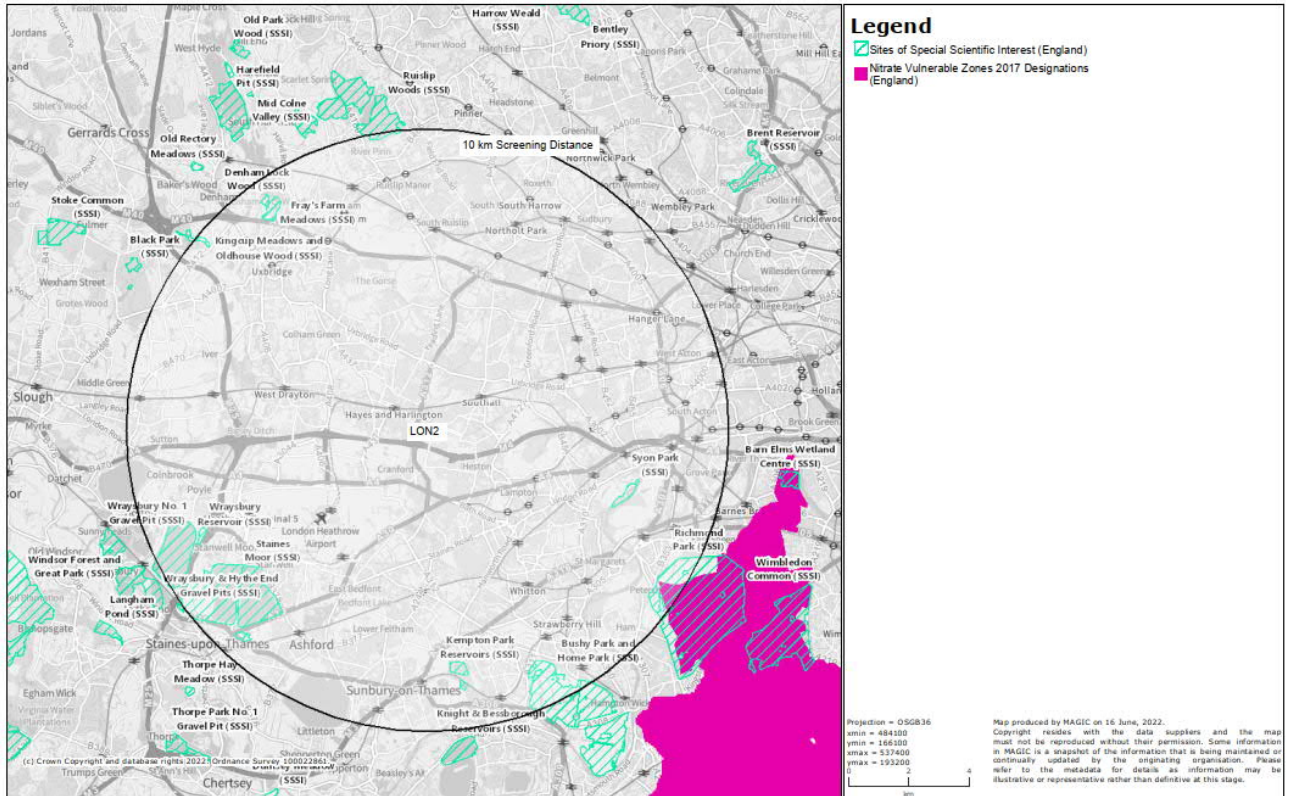
The European Eel has been identified as a protected species with its migratory route located in the Grand Union Canal (Environmental Agency, 2022).

Ten Sites of Special Scientific Interest have been identified within a screening distance of 10 km from the Site (Figure 3-5). These include the following:

- Ruislip Woods;
- Denham Lock Wood;
- Fray’s Farm Meadows;
- Kingcup Meadows and Oldhouse Wood;
- Wraysbury Reservoir;
- Staines Moor;
- Kempton Park Reservoirs;
- Bushy Park and Home Park;
- Syon Park; and,
- Richmond Park.

There is 1 Nitrate Vulnerable Zone within a screening distance of 10 km (Figure 3-5), namely Beverley Brook (Motspur Park to Thames) and Pyl Brook at West Barnes.





**Figure 3-5 – Sites of Special Scientific Interest and Nitrate Vulnerable Zone (magic.defra.gov.uk, 2022)**

## 3.2 POLLUTION HISTORY

### HISTORICAL LAND USE AND ASSOCIATED CONTAMINANTS

To determine the history of the Site and surrounding areas, the following sources have been consulted:

- Historical Ordnance Survey Maps and Aerial photographs dating from 1864 to 2021 (Landmark Envirocheck, 24 May 2022); and,
- Geotechnical and Geoenvironmental Report, RSK Group Plc, 2011 (Project No. 251347-01 (00)).

#### Historical Ordnance Survey Maps and Aerial Photographs, Landmark Envirocheck, 2022

- Site History

The Site history has been interpreted from Ordnance Survey County Series and Ordnance Survey Plan (1:2,500), Ordnance Survey Plan (1:2,500 and 1:1,250) and Large-Scale National Grid Data (1:2,500 and 1:1,250) of the area between 1864 to 1994, along with an aerial photograph from 1999. This is presented in Table 3-7.

**Table 3-7 – Site History**

Year	Description
1864 - 1964	The Site is undeveloped with woodlands running in a north south direction through the centre of the Site.
1966 - 1995	The Site is developed as part of the Western International Market with a large building along the eastern half of the Site and a car park along the western half of the Site.
1999	The aerial photograph confirms that the Site is developed as part of the Western International Market as above.

■ Surrounding Area History

The surrounding area history has been interpreted from Ordnance Survey County Series (1:10, 560), Ordnance Survey Plan (1:10 000), Raster Mapping (1:10 000) and a VectorMap (1:10 000) of the area between 1881 and 2021, along with an aerial photograph from 1868 - 2021. This is presented in Table 3-8.

**Table 3-8 – Surrounding Area History**

Year	Description
1868 - 1869	The surrounding area comprised agricultural fields. An Orphanage and Chapel are evident to the east of the Site. The Grand Junction Canal is labelled. The River Crane is evident running in a southerly direction through the Cranford Country Park. A railway and Hayes Station is evident. Roads are evident to the north and east of the Site; the easterly road labelled as Tentlow Lane.
1897	The railway is labelled as Great Western Railway. The Yeading Brook and River Crane are labelled. Roads to the north and east of the Site are labelled as Fenced Main Roads. A Main Road is now evident to the west of the Site, labelled as Church Road. There is evidence of farms and cottages south of the Site. A residential village is starting to develop to the east of the Site, namely Southall Green. Gas Works and chemical works are evident between the Great Western Railway and the Grand Union Canal. Creosoting Works is evident south of the Great Western Railway.
1920	Industrial development has expanded south of the Great Western Railway to include Rubastic Works, Jam Factory, Telephone Works, Emulsion Works and Engineering and Motor Works. The residential village of Southall Green has developed and expanded. There is evidence of the development of another residential village to the west of the Site, namely Botwell.
1932 - 1935	Hayes Road and Southall Lane are labelled. The two residential villages have developed and expanded significantly. Heston Airport and Landing Ground is evident to the south with the development of another residential village nearby along Cranford Lane.
1938 - 1960	No significant change.
1965 - 1966	The Heston Airport is labelled as Disused, with a large area labelled as gravel pit. The residential village to the south has developed and expanded.

1970 - 1975	A motorway is evident bisecting Botwell from Cranford Park. Associated with this are motorway service areas.
1985 - 1989	The Site and immediate surroundings are labelled as Western International Market with building developments within the immediate area. Adjacent industrial areas are labelled as industrial estates. The disused Heston Aerodrome has developed into an Airlinks Industrial Estate and The Spitfire Estate.
1990 - 1995	A Golf Course has been developed on the remainder Heston Aerodrome land.
1999 - 2006	The Motorway is labelled as the M4. The Parkway is labelled (A312).
2021	The Western Internal Market label has been removed with new shaped buildings evident.

### **Geotechnical and Geo-Environmental Report, RSK Group Plc, 2011 (Project No. 251347-01 (00))**

The Phase I and II Geotechnical and Geo-Environmental Assessment entailed a site investigation to provide information on the environmental characteristics of the Site and to assess the potential liabilities associated with Site ownership.

Previous site investigation reports have been produced for the Site. These are summarised below:

- Western International Market, Geotechnical Interpretive Report and Assessment of Contamination, ref: B2274A/G/R03/Rev A, by Gifford's, September 2003

Contamination testing undertaken within the previous reports identified elevated concentrations of Polycyclic Aromatic Hydrocarbons (PAH) and cadmium which were slightly above the CLEA trigger guidance values, however due to the date of the report and changes in published guidelines these are no longer relevant guidance values. The testing undertaken within the report identified no elevated concentrations of contamination which may pose a risk to the proposed industrial end users. Marginally elevated concentrations of phytotoxic metals were encountered across the site, although these were considered not a risk as they were only marginal.

Significant concentrations of hazardous gases were identified during the previous investigations with maximum concentration of methane of 21.9% and carbon dioxide of 13.9% and maximum flow rates of 0.5l/hr. These concentrations are indicative of a characteristic situation 2 in accordance with CIRIA C665. Protective measures would include a reinforced concrete slab with a minimum 1200g damp proof coarse membrane with possible under floor venting and all joints and penetrations to be sealed.

- Supplementary Geo-Environmental Interpretive Report and Remediation Statement, ref: 11986/E/RO2/Rev A, by Gifford's, September 2005

The additional gas monitoring undertaken did not identify any significantly elevated concentrations of hazardous gases; it is considered that the elevated concentrations of methane of 21.9% identified in the previous report can be easily accounted for. It was suggested that these elevated concentrations were associated with an existing organic recycling point and that organic liquids may be leaking into the soil immediately beneath the slab, degrading to produce methane. It was suggested that the



soils in this area were excavated and vented to the atmosphere along with undertaking an additional gas spike survey.

- A gas assessment letter report undertaken by Bureau Veritas, 21st January 2009.

Bureau Veritas were instructed by Kier Property Developments Limited to install four additional wells on part of the Western International Market site, one of which is located on RSK STATS investigation site. The results of the investigation did not identify any elevated concentrations of hazardous gases during the four return monitoring visits undertaken between the 1st December 2008 and the 20th January 2008.

Chemical testing was undertaken on both soil and groundwater samples taken by RSK Group Plc during the intrusive investigation in 2011. This was carried out to assess the levels of contamination within the Made Ground and natural soils encountered on the Site. The results are presented in **Section 3.3**.

## **VISUAL/OLFACTORY EVIDENCE OF EXISTING CONTAMINATION**

The LON2 Data Centre was subject to a site walkover on the 7th February 2019 by Derek Schoehuys and Derek Main from WSP and Daniel Burgon from Virtus. The site walkover showed that the Data Centre was fully developed and covered in hardstanding with no evidence of visual or olfactory pollution.

## **EVIDENCE OF DAMAGE TO POLLUTION PREVENTION MEASURES**

The existing engines were installed between 2015 and 2018, all of which are located within a building located on hardstanding. There is no evidence of damage to the hardstanding area.

## **ENVIRONMENTAL CONSENTS, LICENCES, AUTHORISATIONS, PERMITS AND DESIGNATIONS**

The following section contains regulatory information related to potentially polluting activities associated with the Site and within a 1 km screening distance of the Site. Much of this information has been obtained from the Landmark Envirocheck Report, 24 May 2022.

### **Pollution Incidents which may have Affected the Land**

The Landmark Envirocheck Report, 24 May 2022 identifies 50 pollution incidents to controlled waters within 1 km of the Site (Table 3-9).

**Table 3-9 – Pollution incidents to Controlled Waters within 1 km of the Site**

<b>Details</b>	<b>Direction from Site</b>	<b>Distance from Site (m)</b>	<b>Incident Category</b>	<b>Incident Year</b>
Oils - Unknown	North	248	Category 3 – Minor Incident	1995

Chemicals - Unknown	North-East	257	Category 3 – Minor Incident	1992
Oils - Unknown	North-West	275	Category 1 – Major Incident	1989
Unknown Sewage	West	355	Category 3 – Minor Incident	1995
Agricultural - Unknown	West	359	Category 3 – Minor Incident	1996
General	West	403	Category 2 – Significant Incident	1997
General	West	404	Category 2 – Significant Incident	1997
Oils - Unknown	East	405	Category 3 – Minor Incident	1993
Oils - Unknown	South-West	435	Category 3 – Minor Incident	1992
Oils - Unknown	North-West	439	Category 2 – Significant Incident	1991
Miscellaneous – Urban Runoff	North-West	444	Category 3 – Minor Incident	1992
Oils - Unknown	North-West	445	Category 3 – Minor Incident	1998
Unknown Sewage	North	453	Category 3 – Minor Incident	1997
Unknown Sewage	North	501	Category 3 – Minor Incident	1997
Miscellaneous - Other	South-West	542	Category 3 – Minor Incident	1996
Oils - Unknown	South-West	542	Category 3 – Minor Incident	1989
Unknown Sewage	South-East	544	Category 2 – Significant Incident	1995
Unknown Sewage	South-West	546	Category 2 – Significant Incident	1993
Oils - Unknown	North-West	546	Category 3 – Minor Incident	1996
Oils - Unknown	North-West	550	Category 2 – Significant Incident	1989



Oils - Unknown	South-West	613	Category 3 – Minor Incident	1995
Oils - Unknown	South-West	614	Category 3 – Minor Incident	1992
Oils - Unknown	South-West	614	Category 3 – Minor Incident	1992
Oils - Unknown	South-West	617	Category 3 – Minor Incident	1992
Oils - Unknown	North-West	634	Category 2 – Significant Incident	1993
Oils - Unknown	South-West	648	Category 3 – Minor Incident	1995
Miscellaneous - Unknown	North	648	Category 3 – Minor Incident	1990
Oils - Unknown	North	652	Category 3 – Minor Incident	1991
Chemicals - Unknown	North	653	Category 3 – Minor Incident	1990
Oils - Unknown	North	658	Category 3 – Minor Incident	1989
Chemicals - Unknown	North	677	Category 1 – Major Incident	1989
Chemicals - Unknown	North	679	Category 3 – Minor Incident	1989
Oils – Unknown	North	684	Category 2 – Significant Incident	1989
Oils - Unknown	South-West	684	Category 3 – Minor Incident	1992
Oils - Unknown	South-West	687	Category 3 – Minor Incident	1996
Chemicals - Unknown	North	698	Category 1 – Major Incident	1990
Unknown Sewage	North	748	Category 3 – Minor Incident	1991
Oils – Unknown	North	751	Category 3 – Minor Incident	1996
Oils - Unknown	North	751	Category 3 – Minor Incident	1990

Miscellaneous - Unknown	North	752	Category 3 – Minor Incident	1991
Oils - Unknown	North	757	Category 3 – Minor Incident	1990
Oils - Unknown	South-West	760	Category 2 – Significant Incident	1989
Oils - Unknown	North	779	Category 2 – Significant Incident	1989
Oils – Unknown	South-West	825	Category 3 – Minor Incident	1991
Oils - Unknown	North-West	827	Category 3 – Minor Incident	1999
Oils – Unknown	South-West	829	Category 3 – Minor Incident	1996
Oils - Unknown	South-West	832	Category 3 – Minor Incident	1992
Oils – Unknown	South-West	833	Category 3 – Minor Incident	1991
Oils - Unknown	South-West	836	Category 3 – Minor Incident	1993
General	North	1000	Category 3 – Minor Incident	1998

There are three entries on the Substantiated Pollution Incident Register (Table 3-10).

**Table 3-10 – Substantiated Pollution Incident Register**

Details	Direction from Site	Distance from Site (m)	Incident Category	Incident Year
- Inert Materials and Wastes: Soils and Clay - Specific Waste Materials: Other Specific Waste Material	South-East	609	<u>Water Impact:</u> Category 3 – Minor Incident <u>Air Impact:</u> Category 3 – Minor Incident <u>Land Impact:</u> Category 2 – Significant Incident	2008
Oils and Fuel: Other Oil or Fuel	South-East	686	<u>Water Impact:</u> Category 2 – Significant Incident <u>Air Impact:</u> Category 4 – No impact	2013

			<u>Land Impact</u> : Category 2 – Significant Incident	
Oils - Unknown	North	698	<u>Water Impact</u> : Category 2 – Significant Incident <u>Air Impact</u> : Category 4 – No impact <u>Land Impact</u> : Category 4 – No impact	2020

### Environmental Permitting Regulations (EPR) Authorisations

The Landmark Envirocheck Report, 24 May 2022 indicates that there is 1 effective permit and 1 surrendered permit under the Integrated Pollution Prevention and Control (IPPC) / Environmental Permitting Regulations located within 1 km of the Site (Table 3-11). There are also 13 Local Authority Integrated Pollution Prevention and Control permitted facilities which comprise the following types of premises / industries:

- Coating of metal and plastic;
- Mineral drying and roadstone coating processes;
- Blending, packing, loading and use of bulk cement;
- Manufacture of timber and wood-based products;
- Respraying of road vehicles;
- Surface cleaning;
- Printworks; and,
- Petrol filling stations.

**Table 3-11 – EPR/ IPPC Authorisations**

Licensee	Details	Approximate Distance from Site (m)	Direction from Site	Status
Fm Conway Ltd	- 5.6 A (1) (A) Temporary Storage of Hazardous Waste - 5.3 (A) (1) (A) (vi) Disposal or Recovery of Hazardous Waste	619	North-West	Effective (28 January 2021)
Nestle UK Limited	- 1.1 A (1) (A) Combustion; any fuel greater or equal to 50 MW	831	North-West	Surrender Effective

### Discharge Consents

The Landmark Envirocheck Report, 24 May 2022 indicates that there are two valid discharge consents and two revoked discharge consents located within 1 km of the Site (Table 3-12). These were confirmed on the Environment Agency Public Register.

**Table 3-12 – Discharge Consents**

Operator	Description	Approximate Distance from Site (m)	Direction from Site	Start Date	Revocation Date
National Grid Company Plc	Trade Effluent Discharge – Site Drainage to Freshwater Stream/River	North-West	479	26 April 2001	-
National Grid Transco Plc	Trade Effluent Discharge – Site Drainage to Freshwater Stream/River	North-West	502	23 August 2004	01 August 2010
Smallmead Trust	Miscellaneous Discharges – Mine/ Groundwater as Raised to Land/Soakaway	North	667	06 September 1999	-
C.A. Blackwell (Contracts) Limited	Trade Effluent Discharge – Site Drainage to Land/Soakaway	North-East	982	09 January 2018	24 March 2022

**Operational and Non-operational Landfill Sites**

There are eight historical landfill sites and no active landfill sites located within 1 km of the Site (Table 3-13).

**Table 3-13 – Historical Landfill Sites**

Licensee	Waste Deposited	Direction	Distance (m)
Not supplied	Inert, industrial, commercial, household and special waste	North	115
Crown Golf Ltd	Not supplied	South-East	214
Not supplied	Inert waste	East	254
London Borough of Ealing	Inert, commercial and household	North-West	362
Not supplied	Inert, industrial, commercial, household and special waste	South	533
Not supplied	Not supplied	North	680

Not supplied	Inert Waste	South	847
Wimpey Construction UK Limited	Inert Waste	North	942

### Licensed Waste Management Facilities

The Landmark Envirocheck Report, 24 May 2022 identifies four active, one inactive and 1 surrendered licensed waste management facilities located within 1 km of the Site (Table 3-14).

**Table 3-14 – Licensed Waste Management Facilities within 1 km of the Site**

Operators	Details	Direction	Distance (m)	Licence Status
Lampton Recycle 360 Limited	HCI Waste Transfer Station and treatment	South	70	Modified (4 June 2020)
Quattro UK Limited	Household, commercial and industrial transfer stations	South-East	139	Modified (18 January 2021)
Crown Golf T/A Ex-Golf Limited	Landfills taking non-biodegradable wastes (not construction)	South-East	211	Inactive
Personnel Hygiene Services Limited	Clinical Waste Transfer Station	North	213	Surrendered (31 July 2000)
FM Conway Limited	Physical Treatment Facilities	North	570	Modified (28 January 2021)
Personnel Hygiene Services Limited	Clinical Waste Transfer Station	North-West	994	Modified (13 September 2017)

### British Geological Survey Recorded Mineral Sites

The Landmark Envirocheck Report, 24 May 2022 indicates that there is one active BGS Recorded Mineral Site within 1 km of the Site (Table 3-15).

**Table 3-15 – British Geological Survey Active Mineral Site**

Site Name	Direction	Distance (m)
Hayes Aggregate Terminal	North-West	794



There are 23 British Geological Survey Ceased Opencast Mineral Sites located within 1 km of the Site. Table 3-16 presents the sites located within 1 km from the Site.

**Table 3-16 – British Geological Survey Ceased Opencast Mineral Sites**

Site Name	Direction	Distance (m)
St Mary's Brickfield	West	44
St Mary's Brickfield	East	78
Kings Head Brick Field	North-East	194
North Hyde Brick Fields	South-East	330
Heston Airfield Gravel Workings	South-East	330
Heston Brick Fields	South-East	427
North Hyde Brick Fields	South-East	579
Heston Airfield Gravel Workings	South-East	579
Bulls Bridge Brick Field	North-West	640
Southall Green Brick Field	North-East	680
North Hyde Brick Field	East	701
North Hyde Brick Fields	South-East	742
Heston Airfield Gravel Workings	South-East	742
North Hyde Brick Fields	South-East	753
Heston Airfield Gravel Workings	South-East	753
Bulls Bridge Brick Field	North-West	755
Hayes Aggregate Terminal	North-West	794
North Hyde Brick Fields	East	810
North Hyde Brick Fields	South-East	883
North Hyde Brick Fields	South-East	903
Heston Airfield Gravel Workings	South-East	903
Heston Brick Fields	South-East	924
Heston Airfield Gravel Workings	South-East	924

## Radioactive Substances

The Envirocheck Report, 24 May 2022 indicates that there are no Radioactive Substances Authorisations within 1 km screening distance of the Site.

### 3.3 EVIDENCE OF HISTORIC CONTAMINATION

The Geotechnical and Geo-Environmental Report, RSK Group Plc, 2011 (Project No. 251347-01 (00)) has reference.

The results for both soil and groundwater laboratory analysis compared to their respective Generic Assessment Criteria (GAC) are presented in the report.

The intrusive investigation undertaken by RSK Group Plc, 2011 concluded the following:

- Human Health

The investigation did not indicate the presence of contamination that is a potential risk to industrial/commercial end users.

- Controlled Waters

The investigation did not reveal the presence of contaminants within the soil leachate or groundwater that exceed freshwater EQS or UK Drinking Water Standards. Therefore, the investigation did not indicate there to be a potential risk to controlled waters.

- Ground Gases

The Site can be categorised as Characteristic Situation 1, which does not require any gas protection measures. Therefore, the investigation did not reveal there to be any confirmed pollutant linkages with regards to ground gases at the Site.

The investigation indicated that there were slightly elevated concentrations of hydrocarbons encountered within TP12 at 0.3m bgl.

The chemical analysis results for soil and groundwater are detailed in Appendix B. These are presented as the baseline reference data for the Site.

The primary pollutant of concern associated with the activity is fuel oil.

## 4 PERMITTED ACTIVITIES

---

A detailed description of the activities can be found in the main EPR permit application. For the purpose of this SCR only, a summary of the permitted and non-permitted activities can be found below.

### 4.1 PERMITTED ACTIVITIES

This document has been developed to provide the key information required for an Environmental Permit application. The Site is to be regulated as a listed activity under Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2010, as amended (EPR), as follows:

“Section 1.1 Combustion activities Part A(1) (a) Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts”.

Directly Associated Activities (DAA) are carried out within the installation boundary. These include the following:

- Raw material handling and storage (most notably bulk fuel oil); and,
- Waste handling and storage.

### PROCESS DESCRIPTION

The installation at Hayes Road comprises a single data centre unit referred to as London 2 (LON2), built to Uptime Tier III standard which means that there is no interruption to the operation of the computer hardware located in the centre, for example during routine maintenance of power and cooling systems. The emergency generators provide an important part of achieving the standard.

LON2 has eight generators divided across 2 generator rooms, each room has six engine spaces, currently there are four engines in the northern room (Generator Room 1), and four in the southern room (Generator Room 2). The Environmental Permit application process will add a fifth engine to Room 1.

The total rated thermal input (under standby power operating conditions) of all the generators across the LON2 Data Centre will be 51.00 MWth on completion.

### 4.2 NON-PERMITTED ACTIVITIES

There are no relevant polluting non-permitted activities.



## 5 RISKS TO LAND AND GROUNDWATER

This section of the SCR identifies potential risks to the land and groundwater posed by the current activities which are undertaken on site and associated materials. The Environmental Risk Assessment summarises the potential risks and the proposed mitigation measures which will be put in place to minimise the risk.

### 5.1 STORAGE TANKS AND ASSOCIATED PIPEWORK

A list of all above ground fuel oil storage tanks and associated containment measures is provided in Table 5-1. The Site has no below ground storage tanks.

Visual inspections of the external structures of the tanks and containment features will continue to be undertaken on a daily basis for signs of corrosion. This will be in accordance with the Asset Integrity Programme. Checks will also continue to be carried out as the generators are serviced (minor and major service) by the OEM or OEM approved provider 6-monthly and annually.

All transfer pipes including the delivery point are within cabinets or within the fabric of the building, and balancing pipework between tanks are in the building (which provide the facility to pump diesel between adjacent tanks if necessary). These are routinely kept closed to prevent un-managed flow between tanks.

**Table 5-1 – Above Ground Fuel Oil Storage Tanks**

Tank No.	Contents	Volume/ Capacity litres	Primary Containment	Secondary/ Tertiary Containment Feature	Observation (e.g. loss of integrity, spillage, staining)
1-9	Ultra low sulphur gas oil	9 x 21,666 litres = 194,994 l belly tanks Plus day tanks 9 x 1200l = 10,800 l Total 205,794 l capacity	BS799 PT5 Type J  Double skinned steel tanks, alarmed internal void space	Within a building located on hardstanding	The 8 existing engines were installed between 2015 and 2018 (i.e. < 10 years old). No evidence of loss of integrity.

Subsurface pipework infrastructure is/will be associated with the drainage network (Table 5-2).

**Table 5-2 – Underground Infrastructure**

Infrastructure	Secondary/ Tertiary Containment Feature	Observation (e.g. loss of integrity, spillage, staining)
Foul water drains	LON2 engine bays are located within two generator rooms, each draining to the existing foul sewer.	The 8 existing engines were installed between 2015 and 2018 (i.e. < 10 years old). No evidence of loss of integrity.
Surface Water Drains	The fuel delivery pipe connections are in an enclosed locked box over a bunded and covered	No evidence of loss of integrity of the bunded area.

	<p>area with surface water drainage via a Class 1 forecourt separator with 10,000 litre capacity and a high level alarm. This system then discharges via a stormwater attenuation tank with flow control discharging to the public surface water sewer system.</p>	
--	--	--

## 5.2 CONCRETE HARDSTANDING AND BUNDS

The Site comprises mainly hardstanding with very few landscaped areas. The hardstanding is not kerbed.

The two generator rooms have a slope / slight fall towards the floor gullies. The fuel filler point is located in an enclosed locked box over a bunded and covered area.

## 5.3 NATURE OF THE STORAGE AND HANDLING OF MATERIALS

Ultra low sulphur gas oil stored in tanks is detailed in Table 5-1. Refer to Table 5-3 for risks from potentially polluting substances including their storage and handling.

The ERA summarises the potential risks and the proposed mitigation measures which will be put in place to minimise the risk from the storage and handling of materials.

## 5.4 SURFACE WATER AND FOUL DRAINAGE

The two generator rooms drainage systems are internal foul systems and separated from the drainage system serving the remaining building, roof and car parking surface water, and pass to the existing foul sewer.

The fuel delivery pipe connections are in an enclosed locked box over a bunded and covered area with surface water drainage via a Class 1 forecourt separator with 10,000 litre capacity and a high level alarm. This system then discharges via a stormwater attenuation tank with flow control discharging to the public surface water sewer system.

## 5.5 POLLUTING SUBSTANCES AND RELEVANT ACTIVITIES

An assessment of pollution potential has been made on polluting materials based upon their properties, toxicity and volume stored, used or manufactured. The following potentially polluting substances/chemicals were present at the Site as presented in Table 5-3 below.

**Table 5-3 – Potentially Polluting Substances**

Substance	Activity	Potential for Pollution
Ultra Low Sulphur Gas Oil	Delivery, storage and combustion in engines	<p>Stored in steel tanks within 2 x generator rooms</p> <p>All transfer pipes including the delivery point are within cabinets or within the fabric of the building, and balancing</p>

		<p>pipework between tanks are in the building (which provide the facility to pump diesel between adjacent tanks if necessary). These are routinely kept closed to prevent un-managed flow between tanks.</p> <p>Delivered to the Site by road tanker with trained operator and supervised by site employee whilst off-loading. This is undertaken in accordance with Virtus oil/fuel delivery procedure as defined in the Virtus Operational Manual.</p> <p>The fuel delivery point is in an enclosed locked box over a bunded and covered area with surface water drainage via a Class 1 forecourt separator with 10,000 litre capacity and a high level alarm. This system then discharges via a stormwater attenuation tank with flow control discharging to the public surface water sewer system.</p>
Oil lubricants	Lubricants for motors, drives and transformer	<p>Small volumes brought to site by contractors for maintenance of generators. A spill response procedure is in place with spill kits deployed strategically throughout the Site.</p> <p>Lubricating oil is contained within the engine which is located within the generator rooms.</p>
Glycol	Coolant for water circuit	<p>Small volumes brought to site by contractors for maintenance of generators. A spill response procedure is in place with spill kits deployed strategically throughout the Site.</p> <p>Coolant is contained within each engine which is located within the generator rooms.</p>

## 6 OPERATIONAL PHASE SITE CONDITION REPORT

In accordance with the template detailed in the Environment Agency publication: EPR H5 Site Condition Report: Guidance and Templates, the Operational Phase SCR requires the maintenance of four key areas:

- 4.0 Changes to the activity;
- 5.0 Measures taken to protect land;
- 6.0 Pollution incidents that may have had an impact on land, and their remediation; and
- 7.0 Soil, gas and water quality monitoring (where undertaken).

This is a new installation and therefore each of these key areas will be updated and altered as required when changes are made to the site or further information becomes available with regards to land condition or potential pollution.

**Table 6-1 – 4.0 Changes to the Activity**

Have there have been any changes to the permitted activities?	N/A
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	N/A

**Table 6-2 – 5.0 Measures taken to protect the land**

Measures taken to protect the land	N/A
Checklist of supporting information	N/A

**Table 6-3 – 6.0 Pollution incidents that may have had an impact on land and their remediation**

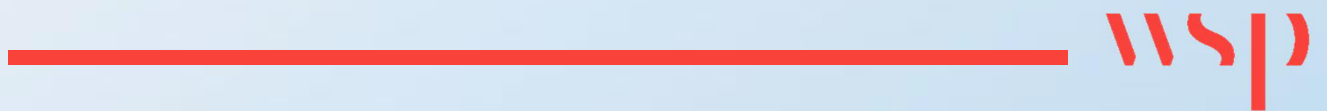
Pollution incidents that may have had an impact on land, and their remediation	N/A
Checklist of supporting information	N/A

**Table 6-4 – 7.0 Soil Gas and Water Quality Monitoring (where undertaken)**

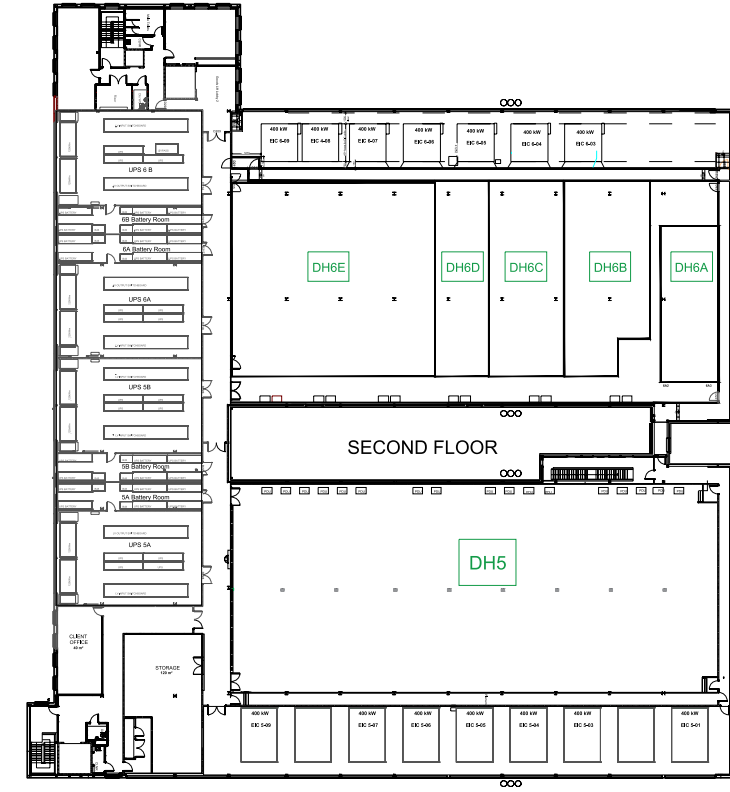
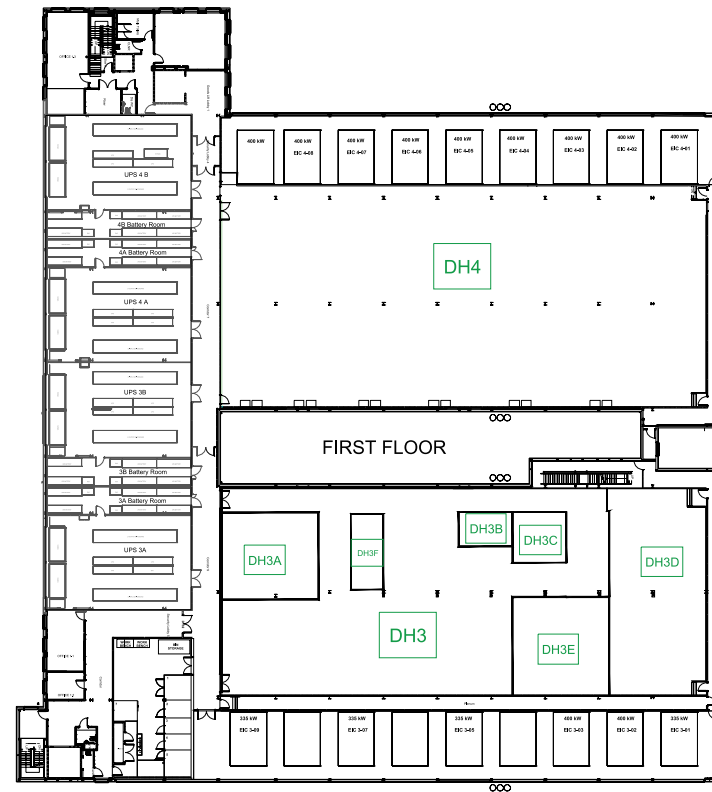
Soil gas and water quality monitoring (where undertaken)	N/A
Checklist of supporting information	N/A

# Appendix A

INSTALLATION LAYOUT



# LONDON2 - HAYES



# Appendix B

CHEMICAL ANALYTICAL RESULTS



# Appendix B.1

SOIL ANALYTICAL RESULTS





## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 11/02704  
**Issue Number:** 1 **Date:** 12 July, 2011

**Client:** RSK STATS Coventry  
The Enterprise Centre  
Coventry University Technology Park  
Puma Way  
Coventry  
CV1 2TX

**Project Manager:** Marc Dixon/Gareth Shaw/Hannah Sydney  
**Project Name:** Western International Market  
**Project Ref:** 251347  
**Order No:** Not specified  
**Date Samples Received:** 24/06/11  
**Date Instructions Received:** 24/06/11  
**Date Analysis Completed:** 12/07/11

**Prepared by:**

**Approved by:**

Melanie Marshall  
Laboratory Coordinator

Iain Haslock  
Analytical Consultant

### Notes - Soil analysis

All results are reported as dry weight (<40°C).

Stones >10mm are removed from the sample prior to analysis and results corrected where appropriate.

### Notes - General

For soil samples subscript A indicates analysis performed on the sample as received, D indicates analysis performed on dried & crushed sample.

Superscript M indicates method accredited to MCERTS.

Predominant Matrix Codes - 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.

Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

Secondary Matrix Codes - A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis. NDP indicates No Determination Possible. NFI indicates No Fibres Identified.

Superscript # indicates method accredited to ISO 17025.

Accreditation for TPH (C6-C40) applies to the range C6-C36 only.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.



Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/1	11/02704/2	11/02704/3	11/02704/4	11/02704/5	11/02704/6	11/02704/7	11/02704/8	Units	Method ref		
Client Sample No												
Client Sample ID	TP1	TP2	TP3	TP6	TP7	TP8	TP9	TP10				
Depth to Top	0.60	0.60	0.40	0.40	0.40	0.40	0.50	0.70				
Depth To Bottom												
Date Sampled												
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	5A	1A	5A	4A	7	7	7	5A				
Asbestos Screen and ID #	Appended	Appended	Appended	Appended	Appended	Appended	Appended	Appended				Subcon
pH <sub>D</sub> <sup>M#</sup>	10.5	9.8	10.2	11.2	11.6	11.4	12.1	10.5	pH	A-T-031s		
Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup>	0.07	0.03	-	0.14	0.09	-	-	-	g/l	A-T-026s		
Cyanide (free) <sub>A</sub> <sup>M#</sup>	-	<1	<1	<1	-	-	<1	-	mg/kg	A-T-042sFCN		
Total Organic Carbon <sub>D</sub> <sup>M#</sup>	1.19	-	-	0.09	-	0.34	-	0.15	% w/w	A-T-032s		
Arsenic <sub>D</sub> <sup>M#</sup>	9	7	7	7	5	6	6	8	mg/kg	A-T-024		
Boron (water soluble) <sub>D</sub> <sup>M#</sup>	<1.0	<1.0	<1.0	1.4	1.5	1.6	1.5	<1.0	mg/kg	A-T-027s		
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	A-T-024		
Copper <sub>D</sub> <sup>M#</sup>	7	4	7	10	7	6	6	14	mg/kg	A-T-024		
Chromium <sub>D</sub> <sup>M#</sup>	22	12	16	25	17	16	15	29	mg/kg	A-T-024		
Chromium (hexavalent) <sub>D</sub>	<1	<1	<1	<1	<1	1	<1	<1	mg/kg	A-T-040s		
Lead <sub>D</sub> <sup>M#</sup>	9	4	11	13	20	6	4	14	mg/kg	A-T-024		
Mercury <sub>D</sub>	<0.17	<0.17	<0.17	0.28	0.35	0.47	0.40	<0.17	mg/kg	A-T-024		
Nickel <sub>D</sub> <sup>M#</sup>	15	11	14	13	10	9	9	24	mg/kg	A-T-024		
Selenium <sub>D</sub> <sup>M#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	A-T-024		
Zinc <sub>D</sub> <sup>M#</sup>	31	20	32	39	34	35	33	45	mg/kg	A-T-024		

Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/1	11/02704/2	11/02704/3	11/02704/4	11/02704/5	11/02704/6	11/02704/7	11/02704/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP2	TP3	TP6	TP7	TP8	TP9	TP10		
Depth to Top	0.60	0.60	0.40	0.40	0.40	0.40	0.50	0.70		
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Sample Matrix Code	5A	1A	5A	4A	7	7	7	5A		
TPH CWG										
Ali >C5-C6 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Total Aliphatics <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Total Aromatics <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
BTEX - Benzene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
MTBE <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
VOC <sup>M#</sup>	Appended	Appended	-	-	-	Appended	-	Appended		Subcon

Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/1	11/02704/2	11/02704/3	11/02704/4	11/02704/5	11/02704/6	11/02704/7	11/02704/8	Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP2	TP3	TP6	TP7	TP8	TP9	TP10		
Depth to Top	0.60	0.60	0.40	0.40	0.40	0.40	0.50	0.70		
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Sample Matrix Code	5A	1A	5A	4A	7	7	7	5A		
PAH 16										
Acenaphthene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.01	0.09	0.02	0.01	0.03	<0.01	mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.09	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub>	<0.01	<0.01	0.03	0.12	<0.01	0.04	0.03	0.03	mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.05	0.03	0.03	0.03	0.02	mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub>	<0.01	<0.01	0.01	0.04	<0.01	0.02	0.03	0.02	mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.01	0.11	0.02	0.02	0.02	0.03	mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.01	0.22	0.02	<0.01	0.04	0.03	mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Napthalene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	0.29	<0.01	<0.01	0.01	<0.01	mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.05	0.13	0.02	<0.01	0.03	0.03	mg/kg	A-T-019s
Total PAH <sub>A</sub>	<0.01	<0.01	0.14	1.31	0.12	0.13	0.24	0.18	mg/kg	A-T-019s

Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/9	11/02704/10							Units	Method ref
Client Sample No										
Client Sample ID	TP11	TP12								
Depth to Top	0.40	0.30								
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
Asbestos Screen and ID <sup>#</sup>	Appended	Appended								Subcon
pH <sup>M#</sup>	11.4	11.3							pH	A-T-031s
Cyanide (free) <sup>A M#</sup>	<1	-							mg/kg	A-T-042sFCN
Total Organic Carbon <sup>D M#</sup>	-	0.10							% w/w	A-T-032s
Arsenic <sup>D M#</sup>	4	5							mg/kg	A-T-024
Boron (water soluble) <sup>D M#</sup>	1.1	1.1							mg/kg	A-T-027s
Cadmium <sup>D M#</sup>	<0.5	<0.5							mg/kg	A-T-024
Copper <sup>D M#</sup>	5	8							mg/kg	A-T-024
Chromium <sup>D M#</sup>	15	14							mg/kg	A-T-024
Chromium (hexavalent) <sup>D</sup>	<1	<1							mg/kg	A-T-040s
Lead <sup>D M#</sup>	7	10							mg/kg	A-T-024
Mercury <sup>D</sup>	0.18	0.19							mg/kg	A-T-024
Nickel <sup>D M#</sup>	8	9							mg/kg	A-T-024
Selenium <sup>D M#</sup>	<1	<1							mg/kg	A-T-024
Zinc <sup>D M#</sup>	29	34							mg/kg	A-T-024

Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/9	11/02704/10							Units	Method ref
Client Sample No										
Client Sample ID	TP11	TP12								
Depth to Top	0.40	0.30								
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
TPH CWG										
Ali >C5-C6 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1							mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	10.8							mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	27.8							mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	429							mg/kg	A-T-023s
Total Aliphatics <sub>A</sub> <sup>#</sup>	<0.1	468							mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub>	<0.01	<0.01							mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	4.7							mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	13.9							mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	34.7							mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	392							mg/kg	A-T-023s
Total Aromatics <sub>A</sub> <sup>#</sup>	<0.1	446							mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub> <sup>#</sup>	<0.1	913							mg/kg	A-T-022+23s
BTEX - Benzene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
MTBE <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-022s
VOC <sup>M#</sup>	-	Appended								Subcon

Envirolab Job Number: 11/02704

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02704/9	11/02704/10							Units	Method ref
Client Sample No										
Client Sample ID	TP11	TP12								
Depth to Top	0.40	0.30								
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
<b>PAH 16</b>										
Acenaphthene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>#</sup>	<0.01	0.10							mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>#</sup>	<0.01	0.12							mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub>	0.02	0.16							mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>#</sup>	0.02	0.14							mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub>	0.02	0.03							mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>#</sup>	0.02	0.24							mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>#</sup>	0.02	0.10							mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>#</sup>	<0.01	0.07							mg/kg	A-T-019s
Napthalene <sub>A</sub> <sup>#</sup>	<0.01	<0.01							mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>#</sup>	<0.01	0.02							mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>#</sup>	0.02	0.11							mg/kg	A-T-019s
Total PAH <sub>A</sub>	0.13	1.09							mg/kg	A-T-019s

## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 11/02705  
**Issue Number:** 1 **Date:** 30 June, 2011

**Client:** RSK STATS Coventry  
The Enterprise Centre  
Coventry University Technology Park  
Puma Way  
Coventry  
CV1 2TX

**Project Manager:** Marc Dixon/Gareth Shaw/Hannah Sydney  
**Project Name:** Western International Market  
**Project Ref:** 251347  
**Order No:** Not specified  
**Date Samples Received:** 24/06/11  
**Date Instructions Received:** 24/06/11  
**Date Analysis Completed:** 30/06/11

**Prepared by:**



Gill Scott  
Laboratory Manager

**Approved by:**



John Gustafson  
Director

Notes - Soil analysis

All results are reported as dry weight (<40°C).  
Stones >10mm are removed from the sample prior to analysis and results corrected where appropriate.

Notes - General

For soil samples subscript A indicates analysis performed on the sample as received, D indicates analysis performed on dried & crushed sample.

Superscript M indicates method accredited to MCERTS.

Predominant Matrix Codes - 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.  
Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.  
Secondary Matrix Codes - A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis. NDP indicates No Determination Possible. NFI indicates No Fibres Identified.

Superscript # indicates method accredited to ISO 17025.

Accreditation for TPH (C6-C40) applies to the range C6-C36 only.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.





Envirolab Job Number: 11/02705

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02705/1	11/02705/2	11/02705/3	11/02705/4	11/02705/5				Units	Method ref
Client Sample No										
Client Sample ID	TP1	TP2	TP8	TP10	TP12					
Depth to Top	0.60	0.60	0.40	0.70	0.30					
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil	Soil	Soil					
Sample Matrix Code	5A	1A	7	5A	4AB					
Leachate Prep BS EN 12457-1 (2:1) <sub>A</sub>										
Arsenic (leachable) <sub>A</sub> <sup>#</sup>	12	6	<1	1	1			µg/l	A-T-025	
Boron (leachable) <sub>A</sub> <sup>#</sup>	56	53	<10	50	22			µg/l	A-T-025	
Cadmium (leachable) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1			µg/l	A-T-025	
Copper (leachable) <sub>A</sub> <sup>#</sup>	4	1	18	2	18			µg/l	A-T-025	
Chromium (leachable) <sub>A</sub> <sup>#</sup>	6	6	24	3	18			µg/l	A-T-025	
Chromium (hexavalent) (leachable) <sub>A</sub>	<0.1	<0.1	<0.1	<0.1	<0.1			mg/l	A-T-040w	
Lead (leachable) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1			µg/l	A-T-025	
Mercury (leachable) <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1			µg/l	A-T-025	
Nickel (leachable) <sub>A</sub> <sup>#</sup>	2	<1	6	<1	3			µg/l	A-T-025	
Selenium (leachable) <sub>A</sub> <sup>#</sup>	1	<1	<1	1	<1			µg/l	A-T-025	
Zinc (leachable) <sub>A</sub> <sup>#</sup>	3	2	2	11	2			µg/l	A-T-025	

## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 11/02797  
**Issue Number:** 1 **Date:** 06 July, 2011

**Client:** RSK STATS Coventry  
The Enterprise Centre  
Coventry University Technology Park  
Puma Way  
Coventry  
CV1 2TX

**Project Manager:** Marc Dixon/Gareth Shaw/Hannah Sydney  
**Project Name:** Western International Market  
**Project Ref:** 251347  
**Order No:** Not specified  
**Date Samples Received:** 30/06/11  
**Date Instructions Received:** 30/06/11  
**Date Analysis Completed:** 05/07/11

**Prepared by:**

**Approved by:**

Melanie Marshall  
Laboratory Coordinator

Iain Haslock  
Analytical Consultant

### Notes - Soil analysis

All results are reported as dry weight (<40°C).

Stones >10mm are removed from the sample prior to analysis and results corrected where appropriate.

### Notes - General

For soil samples subscript A indicates analysis performed on the sample as received, D indicates analysis performed on dried & crushed sample.

Superscript M indicates method accredited to MCERTS.

Predominant Matrix Codes - 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.

Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

Secondary Matrix Codes - A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis. NDP indicates No Determination Possible. NFI indicates No Fibres Identified.

Superscript # indicates method accredited to ISO 17025.

Accreditation for TPH (C6-C40) applies to the range C6-C36 only.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.



Envirolab Job Number: 11/02797

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02797/1	11/02797/2	11/02797/3	11/02797/4	11/02797/5	11/02797/6			Units	Method ref
Client Sample No										
Client Sample ID	BH2	BH3	BH3	BH3	BH4	BH4				
Depth to Top	4.00	3.00	4.70	8.00	5.70	8.00				
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	3	7	3A	3	3A	3				
pH <sub>D</sub> <sup>M#</sup>	8.4	9.2	8.4	9.1	8.3	8.8				
Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup>	0.20	0.09	0.03	0.12	0.06	0.10			g/l	A-T-026s
Sulphate BRE (acid sol) <sub>D</sub> <sup>M#</sup>	0.12	<0.02	<0.02	0.11	<0.02	0.08			% w/w	A-T-028
Sulphur BRE (total) <sub>D</sub>	0.48	0.01	<0.01	0.33	<0.01	0.33			% w/w	A-T-024



**Iain Haslock**  
EnviroLab Ltd  
Sandpits Business Park  
Mottram  
Hyde  
Cheshire  
SK14 3AR

i2 Analytical Ltd.  
Building 19,  
BRE,  
Garston,  
Watford,  
WD25 9XX

**t:** 0161 3684921  
**f:** 0161 3685287  
**e:**

**t:** 01923 67 00 20  
**f:** 01923 67 00 30  
**e:** reception@i2analytical.com

## **Analytical Report Number : 11-28557**

<b>Project / Site name:</b>	Western International Market	<b>Samples received on:</b>	05/07/2011
<b>Your job number:</b>	11/02704	<b>Samples instructed on:</b>	05/07/2011
<b>Your order number:</b>	11/02704	<b>Analysis completed by:</b>	12/07/2011
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	12/07/2011
<b>Samples Analysed:</b>	10 soil samples		

**Signed:**

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

**Signed:**

Dee Theis  
Customer Services Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

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

soils - 4 weeks from reporting  
leachates - 2 weeks from reporting  
waters - 2 weeks from reporting

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.  
The results included within the report are representative of the samples submitted for analysis.

Iss No 11-28557-1

Page 1 of 4



Analytical Report Number: 11-28557

Project / Site name: Western International Market

<b>Lab Sample Number</b>				182067	182068	182069	182070	182071
<b>Sample Reference</b>				11/02704/1	11/02704/2	11/02704/3	11/02704/4	11/02704/5
<b>Sample Number</b>				TP1	TP2	TP3	TP6	TP7
<b>Depth (m)</b>				0,6	0,6	0,4	0,4	0,4
<b>Date Sampled</b>				Deviating	Deviating	Deviating	Deviating	Deviating
<b>Time Taken</b>				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Limit of detection</b>	<b>Accreditation Status</b>					
				Fibrous Material	P/A	N/A	ISO 17025	Absent



Analytical Report Number: 11-28557

Project / Site name: Western International Market

Lab Sample Number				182072	182073	182074	182075	182076
Sample Reference				11/02704/6	11/02704/7	11/02704/8	11/02704/9	11/02704/10
Sample Number				TP8	TP9	TP10	TP11	TP12
Depth (m)				0,4	0,5	0,7	0,4	0,3
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
				Fibrous Material	P/A	N/A	ISO 17025	Absent



**Analytical Report Number : 11-28557**

**Project / Site name: Western International Market**

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Fibrous Material in soil screening	Screening of samples for fibrous material by microscopy.	In-house method based on HSG 248	A001	W	ISO 17025

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**





Envirolab  
Sandpits Business Park  
Mottram Road  
Hyde  
Cheshire  
SK14 3AR

**Attention:** Subcon .

## CERTIFICATE OF ANALYSIS

**Date:** 04 July 2011  
**Customer:** H\_ENVIROLAB\_HYD  
**Sample Delivery Group (SDG):** 110627-108  
**Your Reference:** 11/02704  
**Location:** Western international market  
**Report No:** 137463

We received 5 samples on Saturday June 25, 2011 and 5 of these samples were scheduled for analysis which was completed on Monday July 04, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

**Sonia McWhan**

Operations Manager

<b>SDG:</b> 110627-108	<b>Location:</b> Western international market	<b>Order Number:</b> po724897
<b>Job:</b> H_ENVIROLAB_HYD-311	<b>Customer:</b> Envirolab	<b>Report Number:</b> 137463
<b>Client Reference:</b> 11/02704	<b>Attention:</b> Subcon .	<b>Superseded Report:</b>

**Received Sample Overview**

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3755420	11/02704/1 TP1		0.60	11/06/2011
3755424	11/02704/10 TP12		0.30	11/06/2011
3755421	11/02704/2 TP2		0.60	11/06/2011
3755422	11/02704/6 TP8		0.40	11/06/2011
3755423	11/02704/8 TP10		0.70	11/06/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

SDG: 110627-108      Location: Western international market      Order Number: po724897  
 Job: H\_ENVIROLAB\_HYD-311      Customer: Envirolab      Report Number: 137463  
 Client Reference: 11/02704      Attention: Subcon .      Superseded Report:

<b>SOLID</b>						
<b>Results Legend</b> Test No Determination Possible	<b>Lab Sample No(s)</b>	3755420	3755421	3755422	3755423	3755424
	<b>Customer Sample Reference</b>	11/02704/1 TP-1	11/02704/2 TP-2	11/02704/6 TP-8	11/02704/8 TP-10	11/02704/10 TP-12
	<b>AGS Reference</b>					
	<b>Depth (m)</b>	0.60	0.60	0.40	0.70	0.30
	<b>Container</b>	250g Amber Jar (AL)	250g Amber Jar (AL)	250g Amber Jar (AL)	250g Amber Jar (AL)	250g Amber Jar (AL)
Sample description	All	NDPs: 0 Tests: 5				
VOC MS (S)	All	NDPs: 0 Tests: 5				

**SDG:** 110627-108  
**Job:** H\_ENVIROLAB\_HYD-311  
**Client Reference:** 11/02704

**Location:** Western international market  
**Customer:** Envirolab  
**Attention:** Subcon .

**Order Number:** po724897  
**Report Number:** 137463  
**Superseded Report:**

## Sample Descriptions

### Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
-----------	----------	------	-----------------	--------	-------------	--------	------------	-------------	-------

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
3755420	11/02704/1 TP1	0.60	Light Brown	Sand	0.1 - 2 mm	Stones	None
3755421	11/02704/2 TP2	0.60	Light Brown	Sand	0.1 - 2 mm	Stones	None
3755422	11/02704/6 TP8	0.40	Light Brown	Sand	0.1 - 2 mm	Stones	None
3755423	11/02704/8 TP10	0.70	Light Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	None
3755424	11/02704/10 TP12	0.30	Dark Brown	Sand	0.1 - 2 mm	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

SDG: 110627-108  
 Job: H\_ENVIROLAB\_HYD-311  
 Client Reference: 11/02704

Location: Western international market  
 Customer: Envirolab  
 Attention: Subcon .

Order Number: po724897  
 Report Number: 137463  
 Superseded Report:

VOC MS (S)

Results Legend		Customer Sample R	11/02704/1 TP1	11/02704/2 TP2	11/02704/6 TP8	11/02704/8 TP10	11/02704/10 TP1 2
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.60	0.40	0.70	0.30
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
\$	Non-conforming work.		11/06/2011	11/06/2011	11/06/2011	11/06/2011	11/06/2011
aq	Aqueous / settled sample.		25/06/2011	25/06/2011	25/06/2011	25/06/2011	25/06/2011
dis.filt	Dissolved / filtered sample.		110627-108	110627-108	110627-108	110627-108	110627-108
to.unfilt	Total / unfiltered sample.		3755420	3755421	3755422	3755423	3755424
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
Component	LOD/Units		Method				
Dibromofluoromethane**	%	TM116	89.1	90.4	0.57	61.8	59.1
Toluene-d8**	%	TM116	97.4	97.4	96.4	96.2	85.5
4-Bromofluorobenzene**	%	TM116	111	104	113	114	156
Dichlorodifluoromethane	<4 µg/kg	TM116	<4	<4	<4	<4	<4
Chloromethane	<7 µg/kg	TM116	<7	<7	<7	<7	<7
Vinyl Chloride	<10 µg/kg	TM116	<10	<10	<10	<10	<10
Bromomethane	<13 µg/kg	TM116	<13	<13	<13	<13	<13
Chloroethane	<14 µg/kg	TM116	<14	<14	<14	<14	<14
Trichlorofluoromethane	<6 µg/kg	TM116	<6	<6	13.7	<6	<6
1.1-Dichloroethene	<10 µg/kg	TM116	<10	<10	<10	<10	<10
Carbon Disulphide	<7 µg/kg	TM116	<7	<7	<7	<7	<7
Dichloromethane	<10 µg/kg	TM116	<10	<10	<10	<10	<10
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116	<11	<11	<11	<11	<11
trans-1-2-Dichloroethene	<11 µg/kg	TM116	<11	<11	<11	<11	<11
1.1-Dichloroethane	<8 µg/kg	TM116	<8	<8	<8	<8	<8
cis-1-2-Dichloroethene	<5 µg/kg	TM116	<5	<5	<5	<5	<5
2.2-Dichloropropane	<12 µg/kg	TM116	<12	<12	<12	<12	<12
Bromochloromethane	<14 µg/kg	TM116	<14	<14	<14	<14	<14
Chloroform	<8 µg/kg	TM116	<8	<8	<8	<8	<8
1.1.1-Trichloroethane	<7 µg/kg	TM116	<7	<7	<7	<7	<7
1.1-Dichloropropene	<11 µg/kg	TM116	<11	<11	<11	<11	<11
Carbontetrachloride	<14 µg/kg	TM116	<14	<14	<14	<14	<14
1.2-Dichloroethane	<5 µg/kg	TM116	<5	<5	<5	<5	<5
Benzene	<9 µg/kg	TM116	<9	<9	<9	<9	<9
Trichloroethene	<9 µg/kg	TM116	<9	<9	<9	<9	<9
1.2-Dichloropropane	<12 µg/kg	TM116	<12	<12	<12	<12	<12
Dibromomethane	<9 µg/kg	TM116	<9	<9	<9	<9	<9
Bromodichloromethane	<7 µg/kg	TM116	<7	<7	<7	<7	<7
cis-1-3-Dichloropropene	<14 µg/kg	TM116	<14	<14	<14	<14	<14
Toluene	<5 µg/kg	TM116	<5	<5	<5	<5	<5
trans-1-3-Dichloropropene	<14 µg/kg	TM116	<14	<14	<14	<14	<14
1.1.2-Trichloroethane	<10 µg/kg	TM116	<10	<10	<10	<10	<10
1.3-Dichloropropane	<7 µg/kg	TM116	<7	<7	<7	<7	<7
Tetrachloroethene	<5 µg/kg	TM116	<5	<5	<5	<5	<5
Dibromochloromethane	<13 µg/kg	TM116	<13	<13	<13	<13	<13

SDG: 110627-108      Location: Western international market      Order Number: po724897  
 Job: H\_ENVIROLAB\_HYD-311      Customer: Envirolab      Report Number: 137463  
 Client Reference: 11/02704      Attention: Subcon .      Superseded Report:

VOC MS (S)

Results Legend		Customer Sample R	11/02704/1 TP1	11/02704/2 TP2	11/02704/6 TP8	11/02704/8 TP10	11/02704/10 TP1 2
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.60	0.60	0.40	0.70	0.30
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
S	Non-conforming work.		11/06/2011	11/06/2011	11/06/2011	11/06/2011	11/06/2011
aq	Aqueous / settled sample.		25/06/2011	25/06/2011	25/06/2011	25/06/2011	25/06/2011
diss.filt	Dissolved / filtered sample.		110627-108	110627-108	110627-108	110627-108	110627-108
tot.unfilt	Total / unfiltered sample.		3755420	3755421	3755422	3755423	3755424
+	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
Component	LOD/Units		Method				
1,2-Dibromoethane	<12 µg/kg	TM116	<12 §	<12 §	<12 §	<12 §	<12 §
Chlorobenzene	<5 µg/kg	TM116	<5 §	<5 §	<5 §	<5 §	<5 §
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
Ethylbenzene	<4 µg/kg	TM116	<4 §	<4 §	<4 §	<4 §	<4 §
p/m-Xylene	<14 µg/kg	TM116	<14 §	<14 §	<14 §	<14 §	<14 §
o-Xylene	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
Styrene	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
Bromoforn	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
Isopropylbenzene	<5 µg/kg	TM116	<5 §	<5 §	<5 §	<5 §	<5 §
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
1,2,3-Trichloropropane	<17 µg/kg	TM116	<17 §	<17 §	<17 §	<17 §	<17 §
Bromobenzene	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
Propylbenzene	<11 µg/kg	TM116	<11 §	<11 §	<11 §	<11 §	<11 §
2-Chlorotoluene	<9 µg/kg	TM116	<9 §	<9 §	<9 §	<9 §	<9 §
1,3,5-Trimethylbenzene	<8 µg/kg	TM116	<8 §	<8 §	<8 §	<8 §	<8 §
4-Chlorotoluene	<12 µg/kg	TM116	<12 §	<12 §	<12 §	<12 §	<12 §
tert-Butylbenzene	<12 µg/kg	TM116	<12 §	<12 §	<12 §	<12 §	<12 §
1,2,4-Trimethylbenzene	<9 µg/kg	TM116	<9 §	<9 §	<9 §	<9 §	<9 §
sec-Butylbenzene	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
4-Isopropyltoluene	<11 µg/kg	TM116	<11 §	<11 §	<11 §	<11 §	<11 §
1,3-Dichlorobenzene	<6 µg/kg	TM116	<6 §	<6 §	<6 §	<6 §	<6 §
1,4-Dichlorobenzene	<5 µg/kg	TM116	<5 §	<5 §	<5 §	<5 §	<5 §
n-Butylbenzene	<10 µg/kg	TM116	<10 §	<10 §	<10 §	<10 §	<10 §
1,2-Dichlorobenzene	<12 µg/kg	TM116	<12 §	<12 §	<12 §	<12 §	<12 §
1,2-Dibromo-3-chloropropene	<14 µg/kg	TM116	<14 §	<14 §	<14 §	<14 §	<14 §
Tert-amyl methyl ether	<15 µg/kg	TM116	<15 §	<15 §	<15 §	<15 §	<15 §
1,2,4-Trichlorobenzene	<6 µg/kg	TM116	<6 §	<6 §	<6 §	<6 §	<6 §
Hexachlorobutadiene	<12 µg/kg	TM116	<12 §	<12 §	<12 §	<12 §	<12 §
Naphthalene	<13 µg/kg	TM116	<13 §	<13 §	<13 §	<13 §	<13 §
1,2,3-Trichlorobenzene	<6 µg/kg	TM116	<6 §	<6 §	<6 §	<6 §	<6 §

# Appendix B.2

GROUNDWATER ANALYTICAL  
RESULTS





## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 11/02885  
**Issue Number:** 1 **Date:** 28 July, 2011

**Client:** RSK STATS Coventry  
The Enterprise Centre  
Coventry University Technology Park  
Puma Way  
Coventry  
CV1 2TX

**Project Manager:** Marc Dixon / Gareth Shaw / Hannah Sydney  
**Project Name:** Western International Market  
**Project Ref:** 251347  
**Order No:** Not specified  
**Date Samples Received:** 06/07/11  
**Date Instructions Received:** 06/07/11  
**Date Analysis Completed:** 28/07/11

**Prepared by:**



Melanie Marshall  
Laboratory Coordinator

**Approved by:**



Gill Scott  
Laboratory Manager

### Notes - General

For soil samples subscript A indicates analysis performed on the sample as received, D indicates analysis performed on dried & crushed sample.

Superscript M indicates method accredited to MCERTS.

Predominant Matrix Codes - 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.

Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

Secondary Matrix Codes - A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis. NDP indicates No Determination Possible. NFI indicates No Fibres Identified.

Superscript # indicates method accredited to ISO 17025.

Accreditation for TPH (C6-C40) applies to the range C6-C36 only.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.



Envirolab Job Number: 11/02885

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02885/1	11/02885/2	11/02885/3						Units	Method ref
Client Sample No										
Client Sample ID	BH1	BH3	BH4							
Depth to Top										
Depth To Bottom										
Date Sampled	04-Jul-11	04-Jul-11	04-Jul-11							
Sample Type	Water - W	Water - W	Water - W							
Sample Matrix Code										
pH (w) <sub>A</sub> <sup>#</sup>	8.3	8.3	8.3						pH	A-T-031w
Hardness <sub>A</sub> <sup>#</sup>	222	303	273						mg/l Ca CO <sub>3</sub>	A-T-049
Cyanide (free) (w) <sub>A</sub> <sup>#</sup>	0.003	<0.002	<0.002						mg/l	A-T-042wFCN
Arsenic (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-025
Cadmium (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-025
Copper (dissolved) <sub>A</sub> <sup>#</sup>	1	<1	1						µg/l	A-T-025
Chromium (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-025
Chromium (hexavalent) (w) <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1						mg/l	A-T-040w
Lead (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-025
Mercury (dissolved) <sub>A</sub> <sup>#</sup>	0.3	0.1	<0.1						µg/l	A-T-025
Nickel (dissolved) <sub>A</sub> <sup>#</sup>	4	9	2						µg/l	A-T-025
Selenium (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-025
Zinc (dissolved) <sub>A</sub> <sup>#</sup>	3	6	3						µg/l	A-T-025

Envirolab Job Number: 11/02885

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02885/1	11/02885/2	11/02885/3						Units	Method ref
Client Sample No										
Client Sample ID	BH1	BH3	BH4							
Depth to Top										
Depth To Bottom										
Date Sampled	04-Jul-11	04-Jul-11	04-Jul-11							
Sample Type	Water - W	Water - W	Water - W							
Sample Matrix Code										
TPH CWG										
Ali >C5-C6 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Ali >C6-C8 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Ali >C8-C10 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Aro >C5-C7 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Aro >C7-C8 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Aro >C8-C9 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
Aro >C9-C10 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
BTEX - Benzene (w) <sub>A</sub>	<1	<1	<1						µg/l	A-T-022w
BTEX - Ethyl Benzene (w) <sub>A</sub>	<1	<1	<1						µg/l	A-T-022w
BTEX - Toluene (w) <sub>A</sub>	<1	<1	<1						µg/l	A-T-022w
BTEX - m & p Xylene (w) <sub>A</sub>	<1	<1	<1						µg/l	A-T-022w
BTEX - o Xylene (w) <sub>A</sub>	<1	<1	<1						µg/l	A-T-022w
MTBE (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1						µg/l	A-T-022w
VOC (w) <sup>#</sup>	Appended	Appended	Appended							Subcon
TPH CWG C10-C44 with the bandings in accordance with EA document P5-080/TR3 (w) SUBCON Chemtest	Appended	Appended	Appended							Subcon

Envirolab Job Number: 11/02885

Client Project Name: Western International Market

Client Project Ref: 251347

Lab Sample ID	11/02885/1	11/02885/2	11/02885/3						Units	Method ref
Client Sample No										
Client Sample ID	BH1	BH3	BH4							
Depth to Top										
Depth To Bottom										
Date Sampled	04-Jul-11	04-Jul-11	04-Jul-11							
Sample Type	Water - W	Water - W	Water - W							
Sample Matrix Code										
<b>PAH-16MS (w)</b>										
Acenaphthene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Acenaphthylene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Anthracene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Benzo(a)anthracene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Benzo(a)pyrene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Benzo(b)fluoranthene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Benzo(ghi)perylene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Benzo(k)fluoranthene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Chrysene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Dibenzo(ah)anthracene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Fluoranthene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Fluorene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Indeno(123-cd)pyrene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Naphthalene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Phenanthrene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Pyrene (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w
Total PAH (w) <sub>A</sub>	<0.01	<0.01	<0.01						µg/l	A-T-019w



Envirolab  
Sandpits Business Park  
Mottram Road  
Hyde  
Cheshire  
SK14 3AR

**Attention:** Subcon .

## CERTIFICATE OF ANALYSIS

**Date:** 14 July 2011  
**Customer:** H\_ENVIROLAB\_HYD  
**Sample Delivery Group (SDG):** 110707-42  
**Your Reference:** 11/02885  
**Location:** Western International Market  
**Report No:** 139791

We received 3 samples on Thursday July 07, 2011 and 3 of these samples were scheduled for analysis which was completed on Thursday July 14, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

**Sonia McWhan**

Operations Manager



<b>SDG:</b> 110707-42	<b>Location:</b> Western International Market	<b>Order Number:</b> P0724984
<b>Job:</b> H_ENVIROLAB_HYD-338	<b>Customer:</b> Envirolab	<b>Report Number:</b> 139791
<b>Client Reference:</b> 11/02885	<b>Attention:</b> Subcon .	<b>Superseded Report:</b>

## Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3829784	11/02885/1 BH1			04/07/2011
3829786	11/02885/2 BH3			04/07/2011
3829788	11/02885/3 BH4			04/07/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

SDG: 110707-42      Location: Western International Market      Order Number: P0724984  
 Job: H\_ENVIROLAB\_HYD-338      Customer: Envirolab      Report Number: 139791  
 Client Reference: 11/02885      Attention: Subcon .      Superseded Report:

<b>LIQUID</b> Results Legend X Test N No Determination Possible	Lab Sample No(s)	3829788 3829786 3829784	11/02885/3 BH4 11/02885/2 BH3 11/02885/1 BH1			
	Customer Sample Reference					
	AGS Reference					
	Depth (m)					
	Container		Vial (ALE297) Vial (ALE297) Vial (ALE297)			
VOC MS (W)	All	NDPs: 0 Tests: 3		X	X	X



SDG: 110707-42  
 Job: H\_ENVIROLAB\_HYD-338  
 Client Reference: 11/02885

Location: Western International Market  
 Customer: Envirolab  
 Attention: Subcon .

Order Number: P0724984  
 Report Number: 139791  
 Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R	11/02885/1 BH1	11/02885/2 BH3	11/02885/3 BH4			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 04/07/2011 07/07/2011 110707-42 3829784	Water(GW/SW) 04/07/2011 07/07/2011 110707-42 3829786	Water(GW/SW) 04/07/2011 07/07/2011 110707-42 3829788			
M	Non-conforming work.							
S	mCERTS accredited.							
aq	Aqueous / settled sample.							
dis.fit	Dissolved / filtered sample.							
tot.unfit	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
Component	LOD/Units					Method		
Dibromofluoromethane**	%	TM208	111	109	111			
Toluene-d8**	%	TM208	101	100	100			
4-Bromofluorobenzene**	%	TM208	98.9	96.5	103			
Dichlorodifluoromethane	<7 µg/l	TM208	<7	<7	<7			
Chloromethane	<9 µg/l	TM208	<9	<9	<9	#	#	#
Vinyl chloride	<1.2 µg/l	TM208	<1.2	<1.2	<1.2	#	#	#
Bromomethane	<2 µg/l	TM208	<2	<2	<2	#	#	#
Chloroethane	<2.5 µg/l	TM208	<2.5	<2.5	<2.5	#	#	#
Trichlorofluoromethane	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
1,1-Dichloroethene	<1.2 µg/l	TM208	<1.2	<1.2	<1.2	#	#	#
Carbon disulphide	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
Dichloromethane	<3.7 µg/l	TM208	<3.7	<3.7	<3.7	#	#	#
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208	<1.6	<1.6	<1.6	#	#	#
trans-1,2-Dichloroethene	<1.9 µg/l	TM208	<1.9	<1.9	<1.9	#	#	#
1,1-Dichloroethane	<1.2 µg/l	TM208	<1.2	<1.2	<1.2	#	#	#
cis-1,2-Dichloroethene	<2.3 µg/l	TM208	<2.3	<2.3	<2.3	#	#	#
2,2-Dichloropropane	<3.8 µg/l	TM208	<3.8	<3.8	<3.8	#	#	#
Bromochloromethane	<1.9 µg/l	TM208	<1.9	<1.9	<1.9	#	#	#
Chloroform	<1.8 µg/l	TM208	<1.8	<1.8	<1.8	#	#	#
1,1,1-Trichloroethane	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
1,1-Dichloropropene	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
Carbontetrachloride	<1.4 µg/l	TM208	<1.4	<1.4	<1.4	#	#	#
1,2-Dichloroethane	<3.3 µg/l	TM208	<3.3	<3.3	<3.3	#	#	#
Benzene	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
Trichloroethene	<2.5 µg/l	TM208	<2.5	<2.5	<2.5	#	#	#
1,2-Dichloropropane	<3 µg/l	TM208	<3	<3	<3	#	#	#
Dibromomethane	<2.7 µg/l	TM208	<2.7	<2.7	<2.7	#	#	#
Bromodichloromethane	<0.9 µg/l	TM208	<0.9	<0.9	<0.9	#	#	#
cis-1,3-Dichloropropene	<1.9 µg/l	TM208	<1.9	<1.9	<1.9	#	#	#
Toluene	<1.4 µg/l	TM208	<1.4	<1.4	<1.4	#	#	#
trans-1,3-Dichloropropene	<3.5 µg/l	TM208	<3.5	<3.5	<3.5	#	#	#
1,1,2-Trichloroethane	<2.2 µg/l	TM208	<2.2	<2.2	<2.2	#	#	#
1,3-Dichloropropane	<2.2 µg/l	TM208	<2.2	<2.2	<2.2	#	#	#
Tetrachloroethene	<1.5 µg/l	TM208	<1.5	<1.5	<1.5	#	#	#
Dibromochloromethane	<1.7 µg/l	TM208	<1.7	<1.7	<1.7	#	#	#

SDG: 110707-42  
 Job: H\_ENVIROLAB\_HYD-338  
 Client Reference: 11/02885

Location: Western International Market  
 Customer: Envirolab  
 Attention: Subcon .

Order Number: P0724984  
 Report Number: 139791  
 Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R	11/02885/1 BH1	11/02885/2 BH3	11/02885/3 BH4			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
S	Non-conforming work.		04/07/2011	04/07/2011	04/07/2011			
aq	Aqueous / settled sample.		07/07/2011	07/07/2011	07/07/2011			
diss.filt	Dissolved / filtered sample.		110707-42	110707-42	110707-42			
tot.unfilt	Total / unfiltered sample.		3829784	3829786	3829788			
+	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
Component	LOD/Units		Method					
1,2-Dibromoethane	<2.3 µg/l	TM208	<2.3	<2.3	<2.3	#	#	#
Chlorobenzene	<3.5 µg/l	TM208	<3.5	<3.5	<3.5	#	#	#
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208	<1.3	<1.3	<1.3	#	#	#
Ethylbenzene	<2.5 µg/l	TM208	<2.5	<2.5	<2.5	#	#	#
m,p-Xylene	<2.5 µg/l	TM208	<2.5	<2.5	<2.5	#	#	#
o-Xylene	<1.7 µg/l	TM208	<1.7	<1.7	<1.7	#	#	#
Styrene	<1.2 µg/l	TM208	<1.2	<1.2	<1.2	#	#	#
Bromoform	<3 µg/l	TM208	<3	<3	<3	#	#	#
Isopropylbenzene	<1.4 µg/l	TM208	<1.4	<1.4	<1.4	#	#	#
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208	<5.2	<5.2	<5.2	#	#	#
1,2,3-Trichloropropane	<7.8 µg/l	TM208	<7.8	<7.8	<7.8	#	#	#
Bromobenzene	<2 µg/l	TM208	<2	<2	<2	#	#	#
Propylbenzene	<2.6 µg/l	TM208	<2.6	<2.6	<2.6	#	#	#
2-Chlorotoluene	<1.9 µg/l	TM208	<1.9	<1.9	<1.9	#	#	#
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208	<1.8	<1.8	<1.8	#	#	#
4-Chlorotoluene	<1.9 µg/l	TM208	<1.9	<1.9	<1.9	#	#	#
tert-Butylbenzene	<2 µg/l	TM208	<2	<2	<2	#	#	#
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208	<1.7	<1.7	<1.7	#	#	#
sec-Butylbenzene	<1.7 µg/l	TM208	<1.7	<1.7	<1.7	#	#	#
4-iso-Propyltoluene	<2.6 µg/l	TM208	<2.6	<2.6	<2.6	#	#	#
1,3-Dichlorobenzene	<2.2 µg/l	TM208	<2.2	<2.2	<2.2	#	#	#
1,4-Dichlorobenzene	<2.7 µg/l	TM208	<2.7	<2.7	<2.7	#	#	#
n-Butylbenzene	<2 µg/l	TM208	<2	<2	<2	#	#	#
1,2-Dichlorobenzene	<3.7 µg/l	TM208	<3.7	<3.7	<3.7	#	#	#
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208	<9.8	<9.8	<9.8	#	#	#
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208	<2.3	<2.3	<2.3	#	#	#
Hexachlorobutadiene	<2.5 µg/l	TM208	<2.5	<2.5	<2.5	#	#	#
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	#	#	#
Naphthalene	<3.5 µg/l	TM208	<3.5	<3.5	<3.5	#	#	#
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208	<3.1	<3.1	<3.1	#	#	#
1,3,5-Trichlorobenzene	<10 µg/l	TM208	<10	<10	<10	#	#	#

<b>SDG:</b> 110707-42	<b>Location:</b> Western International Market	<b>Order Number:</b> P0724984
<b>Job:</b> H_ENVIROLAB_HYD-338	<b>Customer:</b> Envirolab	<b>Report Number:</b> 139791
<b>Client Reference:</b> 11/02885	<b>Attention:</b> Subcon .	<b>Superseded Report:</b>

### Table of Results - Appendix

**REPORT KEY**

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10<sup>-7</sup>

<b>NDP</b>	No Determination Possible	<b>#</b>	ISO 17025 Accredited	<b>*</b>	Subcontracted Test	<b>M</b>	MCERTS Accredited
<b>NFD</b>	No Fibres Detected	<b>PFD</b>	Possible Fibres Detected	<b>»</b>	Result previously reported (Incremental reports only)	<b>EC</b>	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample <sup>1</sup>	Surrogate Corrected
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		

<sup>1</sup> Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

<b>SDG:</b> 110707-42	<b>Location:</b> Western International Market	<b>Order Number:</b> P0724984
<b>Job:</b> H_ENVIROLAB_HYD-338	<b>Customer:</b> Envirolab	<b>Report Number:</b> 139791
<b>Client Reference:</b> 11/02885	<b>Attention:</b> Subcon .	<b>Superseded Report:</b>

**Test Completion Dates**

Lab Sample No(s)	3829784	3829786	3829788
Customer Sample Ref.	11/02885/1 BH1	11/02885/2 BH3	11/02885/3 BH4
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
VOC MS (W)	14-Jul-2011	14-Jul-2011	14-Jul-2011

**SDG:** 110707-42  
**Job:** H\_ENVIROLAB\_HYD-338  
**Client Reference:** 11/02885

**Location:** Western International Market  
**Customer:** Envirolab  
**Attention:** Subcon .

**Order Number:** P0724984  
**Report Number:** 139791  
**Superseded Report:**

## Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

## SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR VET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLENT EXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DOM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOXTHERM	GCMS
HERBICIDES	D&C	HBKANEACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HBKANEACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HBKANEACETONE	END OVER/END	GCFD
EPH (M/NOL)	D&C	HBKANEACETONE	END OVER/END	GCFD
EPH (CLEAN UP)	D&C	HBKANEACETONE	END OVER/END	GCFD
EPH OVG BY GC	D&C	HBKANEACETONE	END OVER/END	GCFD
POB TOT / POB COC	D&C	HBKANEACETONE	END OVER/END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HBKANEACETONE	MICROWAVE TM18.	GCMS
C8-C40 (C6-C40) EZ FLASH	WET	HBKANEACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS PARD GC	WET	HBKANEACETONE	SHAKER	GCEZ
SEM VOLATILE ORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GCMS

## LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCFD
EPH OVG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCFD
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCFD
POB COC/GENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST COC/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DOM	SOLID PHASE EXTRACTION	GCMS
TRH by INFRARED (R)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by R	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anorthophyllite	-
Fibrous Tremolite	-

### Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Envirolab  
Sandpits Business Park  
Mottram Road  
Hyde  
SK14 3AR

FAO John Gustafson  
28 July 2011

Dear John Gustafson

**Test Report Number 118754**

**Your Project Reference 11/02885 - Western International Market - P0725098**

Please find enclosed the results of analysis for the samples received 20 July 2011.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely



Authorised Signatory

<input type="checkbox"/>	Darrell Hall	Director
<input type="checkbox"/>	Phil Hellier	Director
<input checked="" type="checkbox"/>	Keith Jones	Technical Manager
<input type="checkbox"/>	John Crawford	Quality Manager
<input type="checkbox"/>	Malcolm Avis	Director



*Notes to accompany report:*

- *The sign < means 'less than'*
- *Tests marked N do not currently hold accreditation*
- *Test marked S were subcontracted to an approved laboratory*
- *ne means 'not evaluated'*
- *i/s means 'insufficient sample'*
- *u/s means 'unsuitable sample'*
- *The results relate only to the items tested*

Test Report 118754 Cover Sheet

Envirolab  
Sandpits Business Park  
Mottram Road  
Hyde  
SK14 3AR

# LABORATORY TEST REPORT

Results of analysis of 3 samples  
received 20 July 2011

FAO John Gustafson

11/02885 - Western International Market - P0725098



Report Date  
28 July 2011

**Login Batch No**

Chemtest LIMS ID

Sample ID

Sample No

Sampling Date

Depth

Matrix

SOP↓	Determinand↓	CAS No↓	Units↓	*
1675	TPH aliphatic >C10-C12		µg l <sup>-1</sup>	N
	TPH aliphatic >C12-C16		µg l <sup>-1</sup>	N
	TPH aliphatic >C16-C21		µg l <sup>-1</sup>	N
	TPH aliphatic >C21-C35		µg l <sup>-1</sup>	N
	TPH aliphatic >C35-C44		µg l <sup>-1</sup>	N
	TPH aromatic >C10-C12		µg l <sup>-1</sup>	N
	TPH aromatic >C12-C16		µg l <sup>-1</sup>	N
	TPH aromatic >C16-C21		µg l <sup>-1</sup>	N
	TPH aromatic >C21-C35		µg l <sup>-1</sup>	N
	TPH aromatic >C35-C44		µg l <sup>-1</sup>	N
	Total Petroleum Hydrocarbons		µg l <sup>-1</sup>	N
	Total Aliphatic Hydrocarbons		µg l <sup>-1</sup>	N
	Total Aromatic Hydrocarbons		µg l <sup>-1</sup>	N

AG26890	118754	AG26892
11/02885/1	AG26891	AG26892
BH1	11/02885/2	11/02885/3
04/07/2011	BH3	BH4
	04/07/2011	04/07/2011
WATER	WATER	WATER
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<0.1	<0.1	<0.1
<10	<10	<10
<5	<5	<5
<5	<5	<5

All tests undertaken between 27/07/2011 and 27/07/2011

\* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page.

Column page 1

Report page 1 of 1

LIMS sample ID range AG26890 to AG26892





7 Lochside View  
Edinburgh Park  
Edinburgh, Midlothian  
EH12 9DH

[wsp.com](http://wsp.com)

PUBLIC

